NEW EQUIPMENT DIGEST

A Penton Publication

November, 1960

Volume 25 — Number 11

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CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 16 and 88

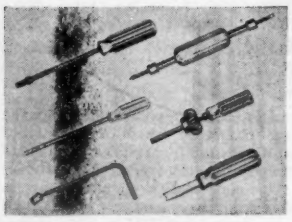
EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

ARMORED INDUSTRIAL TIRE
punctureproof and resists wear

Invulnerable to puncture by practically all objects, this Steel Protected Industrial Pneumatic tire has two plies of steel cables imbedded in the rubber beneath the tread. It is reported to outlast standard industrial tires 6 to 1 and reduce punctures 5 to 1. Made with an all-purpose tread, it is produced in sizes to fit all popular materials handling equipment. • **B. F. Goodrich Co.**, 500 S. Main St., Akron 18, Ohio.

▲ For more details circle NED-1 L on enclosed inquiry slip ▲

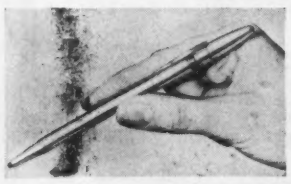
CUSTOM-MADE HAND TOOLS
for special assembly or production



Special-purpose custom-made hand tools can be produced in quantities from one to several thousand for use in place of conventional tools which may prove inefficient or unhandy. Company specializes in making standard professional tools for the radio, automotive, electric, and electronic industries, but this new service will produce tools for any industry or use. A prototype will be produced for inspecting and testing, working from a customer's print or model of the parts needing a special tool. • **Xcelite, Inc.**, Orchard Park, N. Y.

▲ For more details circle NED-2 L on enclosed inquiry slip ▲

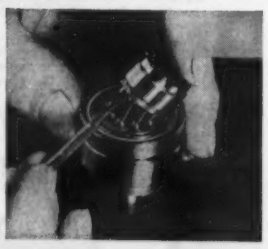
FELT-TIP PEN MARKER
easily carried in pocket



Similar in appearance to pen or pencil, this felt-tip pen marker has a pocket clip and goldtone finish. The ink dries within seconds and will mark practically any surface, includmetal. Green, blue, violet, brown, black, orange, and yellow colored inks are offered. Ink will not dry out if pen is left uncapped, and it marks instantly. Price is 79 cents. • **Flash Mfg. Co.**, 169 Murray St., Newark 5, N. J.

▲ For more details circle NED-3 L on enclosed inquiry slip ▲

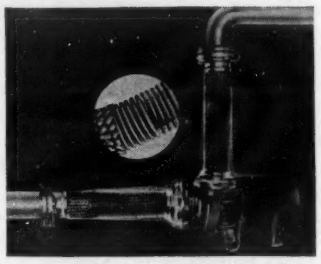
HYDRAULIC PUMP
operates at 40,000 rpm



Despite a compact size of 2.5-in. diameter by 2.7-in. length, Model 905 piston type hydraulic pump delivers 13.1 hp at 40,000 rpm. At lower speeds the pump has 98 per cent volumetric efficiency and over-all efficiency of 90 per cent. Flow response is 30 milliseconds, or less. The rotating group of the pump weighs only 6.7 oz. • **Vickers Inc.**, Dept. 1456, Detroit 32, Mich.

▲ For more details circle NED-4 L on enclosed inquiry slip ▲

FLEXIBLE CONNECTORS
for pumps and pipelines



Short section of corrugated flexible metal tubing, protected against pressure elongation by wire braid, comprises H.A.P. flexible connectors for pumps and pipelines. They have threaded or flanged end connections to fit all standard piping sizes. Besides reducing the effects of vibration, they compensate for misalignment and thermal expansion. Wide range of standard stock configurations is available in 1/4 to 16-in. stainless steel, 1/4 to 8-in. bronze and hot-dip galvanized steel, and 1/4 to 4-in. Monel types for maximum temperatures of 1200, 450, 800, and 800° F, respectively. Material, length, and construction are varied to suit the conveyed fluid, pressure, temperature, and movements encountered. Pressures up to 1500 psi are handled, depending upon alloy, braid, and size. • **Allied Metal Hose Co.**, 8-14 38th Ave., Long Island City 1, N. Y.

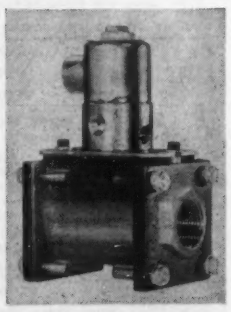
▲ For more details circle NED-5 L on enclosed inquiry slip ▲

DISPENSING CAN
for safe use of toxic solvents

Use of toxic solvents in cleaning and finishing operations is made safer with this 1/2-pt solvent dispensing can which has an automatic, self-sealing well. To moisten a swab or brush, user places it in spring-loaded plunger-type well and depresses the assembly with one or two fingers. This dips brush into the solvent. Upon release, the excess liquid flows back into the can and the liquid opening is resealed. Can has wide, low base for stability and terne plate lead coating inside and out to resist corrosion. Safety yellow or other baked-on color finishes are available. • **Protectoseal Co.**, 1920 S. Western Ave., Chicago 8, Ill.

▲ For more details circle NED-6 L on enclosed inquiry slip ▲

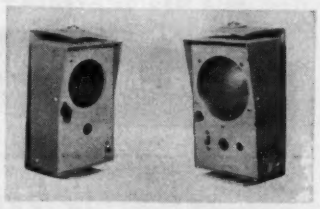
SQUEEZE-ACTION VALVE
handles air, oil, and slurries



Available either normally-open or normally-closed, the Tube-O-Matic squeeze-action valve will handle pressures up to 200 psi in air, oil, chemical, and slurry handling service. When open, supply pressure through the inlet port forces an elastic rubber sleeve against the tube, forcing the medium to flow around the inlet plug and through the outlet port. Pilot pressure applied between the inside of the tube and the outer periphery of the sleeve collapses the sleeve over the rounded ends of the inlet and outlet end plugs, sealing off supply pressure. The only action is the flexing of the sleeve. It is made in 1/4 to 12-in. pipe sizes. • **Airmatic Valve, Inc.**, 7313 Associate Ave., Cleveland 9, Ohio.

▲ For more details circle NED-7 L on enclosed inquiry slip ▲

BURGLAR-INTRUDER ALARM
photoelectric type uses sealed lamp



Interruption of an infrared beam, transmitted in a straight line or with mirrors around corners, causes the Lyne-O-Larm burglar-intruder alarm to sound at one or more locations. It is composed of transistorized, printed circuit-equipped projector and a receiver which may be up to 250 ft apart. Alarm has a sealed beam projector lamp and is easy to align. Operation is on 110 v ac and transformer, or standby battery power supply. The UL approved units measure 4 3/4 x 5 1/2 x 11 3/4 in. • **Walter Kidde & Co.**, Kidde Ultrasonic & Detection Alarms Div., 476 Brighton Rd., Allwood Station, Clifton, N. J.

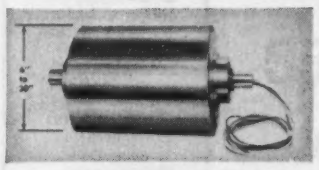
▲ For more details circle NED-8 L on enclosed inquiry slip ▲

AIR-POWERED LIFT TABLE
for use in hazardous locations

Pump which powers the hydraulic system of this lift table is driven by an air motor operating from plant air supply line. Suited for use in hazardous locations, table is manually controlled. Placing of the hand valve in its neutral position stops upward or downward travel of the table. A relief valve prevents overtravel. Roller top equipped unit is supplied with an air line filter-regulator-lubricator. • **West Bend Equipment Corp.**, Water Street, West Bend, Wis.

▲ For more details circle NED-9 L on enclosed inquiry slip ▲

HEATING ROLL
for continuous processed laminates



Electrically heated and having radiant transfer and dual thermocouple temperature control, the Thermaroll is used primarily for heating in continuous processing of laminates, embossed materials, and heat sealable films. Rolls are available for temperatures from 275 to 1000° F, in 6 to 30-in. OD sizes, and have chrome plated and polished outer surface. • **Thermel, Inc.**, 9400 Robinson Rd., Franklin Park, Ill.

▲ For more details circle NED-10 L on enclosed inquiry slip ▲

VIBRATOR
develops 12-ton unbalanced force

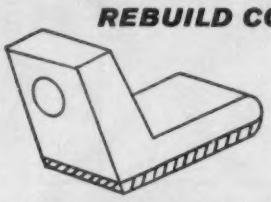
Equipped with pneumatic or hydraulic drives, the DVP-24,000 vibrator can be steplessly controlled from 0 to 3000 vibrations per minute by regulating air or oil flow. The 231-lb unit develops 12 tons of unbalanced force at 3000 rpm. Force is adjusted by removing or adding lead shot to the eccentric weight. Vibrator has low noise level and operates in any position. • **Martin Engineering Co.**, Nedlow Street, Neponset, Ill.

▲ For more details circle NED-11 L on enclosed inquiry slip ▲

ELIMINATE—

- *Contact Inspection and Dressing*
- *Hard-to-find Contact Failure*

REBUILD COPPER CONTACTS



with a silver-bearing facing

Silver facing also can restore to use contacts no longer available.

Rebuilt copper contacts with silver bearing facing benefit users in many ways. Down time due to contact failure is virtually unheard of. One silver faced contact gives the service of several new copper ones. Maintenance expense is reduced. Dependable service is assured. Wherever pitting, metal transfer, or failures occur with heavy electrical current, silver facing on contacts should be investigated.

SUPERIOR CARBON PRODUCTS, INC.
9115 George Avenue—Cleveland 5, Ohio

SCP SUPERIOR CARBON BRUSHES "Since 1919"

Send a worn contact for quotation.

Also ask for folder E.

▲ For more details circle NED-12 L on enclosed inquiry slip ▲

MAKE YOUR PRODUCT MORE COMPETITIVE WITH SAGINAW b/b SCREWS

ADAPTABLE TO electrical, hydraulic, mechanical and pneumatic operations.

Over 90% efficiency—save power, space, weight.
52,000,000 have proved dependable over the past 21 years.

TYPICAL APPLICATIONS

AIRCRAFT • AUTOMATIC GARAGE DOORS • AUTOMOBILE SEATS, WINDOWS, TOPS • BARBER AND BEAUTY CHAIRS • CIRCUIT BREAKERS • DIE TABLES • DRILL PRESSES • HOSPITAL BEDS • JACKS • LIFT TRUCKS • LANDING GEAR, ETC.

WRITE TODAY FOR NEW 1961 DATA BOOK

Saginaw b/b Screws

SAGINAW STEERING GEAR DIV., GENERAL MOTORS CORP., SAGINAW, MICH

▲ For more details circle NED-13 L on enclosed inquiry slip ▲

free

New Protection Guide...

Detex Plant Protection Manual

For industry, institutions, public buildings.

A helpful, up-to-date handbook for anyone responsible for property protection. It's a valuable guide for management; a complete down-to-earth, pocket-size manual for your guards.

30 pages, filled with useful information and protection hints, including such subjects as:

- Who needs a Guard?
- How many Guards do you need?
- Selecting the Guard
- Uniforms, equipment, and appearance
- The Guard's route
- What every Guard should know
- Reporting for duty
- The first round
- Hints on patrolling
- The last round
- Gate Guards
- Why every Guard must be supervised
- Guard's supervisory equipment
- Fire
- First Aid
- First Aid Chart
- Sprinkler Systems
- Report Writing
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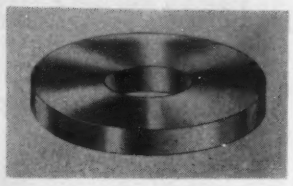
▲ For more details circle NED-14 L on enclosed inquiry slip ▲

RUSTED NUT REMOVER
does not damage bolt threads

Turning the hex head of this "nut busting" tool drives a cutter into the side of a rusty or frozen nut, splitting and freeing it from the bolt threads. Offset shank makes wrench application easier in tight places. It cannot damage the bolt threads. The tool steel cutter is easily resharpened after removing over 100 nuts. Standard size with ¾-in. opening costs $4.95 and large size with 1 3/16-in. opening is $5.35. • Borroughs Tool & Equipment Corp., 2429 N. Burdick St., Kalamazoo, Mich.

▲ For more details circle NED-15 L on enclosed inquiry slip ▲

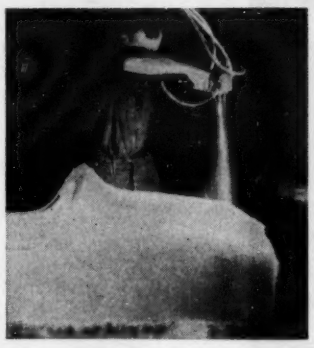
FLAT NYLON WASHER
used as spacer, insulator, bearing



Stocked in sizes up to ½-in. OD, this flat washer of DuPont nylon fits screw diameters from No. 3 to ⅜ in. It has a tensile strength of 15,000 psi. As a spacer or insulator it can be used on any screw, bolt, pin, nail, or rivet. Low coefficient of friction of nylon against metals allows use as an inexpensive bearing that requires no lubrication. Other uses include insulating dissimilar metals, absorbing shock and vibration, and fastening porcelain or ceramic materials without cracking or crazing the surface. Samples and special sizes are available. • Nyltite Corp. of America, 280 Badger Ave., Newark 8, N. J.

▲ For more details circle NED-16 L on enclosed inquiry slip ▲

GLASS FIBER SPRAY GUN
mixes strands with resin in midair



Machinery safety guards, tank repair and maintenance, floors, ceilings, roofs, buildings, pools, and boats are made by Spray-Building, a process that uses a gun and equipment to apply glass fiber by spraying. Equipment breaks up the glass fiber strands, mixes them with resins in midair, and sprays the material against virtually any surface in any required thickness. The mixture hardens to the strength of steel in 2 hr. The color impregnated product is maintenance-free, easily fabricated, and corrosionproof. Complete spray outfits range in price from $1295 to $9995. • Spray-Bilt, Inc., 3605 E. Tenth Court, Hialeah, Fla.

▲ For more details circle NED-17 L on enclosed inquiry slip ▲

XMAS GIFTS Low Cost Different!
SCIENCE • MATH • OPTICS

ORDER BY STOCK NO. • CHECK—M.O. • SATISFACTION OR MONEY BACK

6X POCKET COMPARATOR

Use to check layouts, machining on tools, dies, gauges, threads, chamfers, etc. Measures angles, radii, circles, linear in both decimal inches & millimeters.
Stock No. 30,061- AE — $19.50 Pstpd.

WOOD PUZZLES

Fascinating fun. Stimulates ability to think and reason. 12 different puzzles — animals, geometric forms to take apart and reassemble.
Stock No. 70,205- AE — $3.00 Pstpd.

CRYSTAL GROWING KIT
Grow breath-taking display of large crystals with this set.
Stock No. 70,336- AE — $9.50 Pstpd.

1,000 LB. ROPE HOIST

Extra heavy duty — uses 24 ft. long ⅝" rope. Steel swivel hooks, roller bearings and steel rope lock — holds in any position. 1,000 lbs. capacity.
Stock No. 70-316- AE $5.00 Pstpd.

SCIENCE TREASURE CHESTS
For Boys, Girls, Adults!
Excellent Science Fair Project Material!

STANDARD CHEST . . . Extra powerful Magnets, Polarizing Filters, Compass, One-way Mirror Film, Prism, Diffraction Grating, lots of other items for hundreds of thrilling experiments, plus 10-Lens Kit for making telescopes, microscopes, etc. Full instructions included.
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Amazing Value!

3 Achromatic objective lenses on revolving turret! Imported. Fine rack and pinion focusing.
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$14.95 Pstpd.

BARGAIN! 3" ASTRONOMICAL TELESCOPE . . . 60 TO 180X

See stars, moon, planets close-up. Famous Mt. Palomar reflecting type. Equatorial mount; finder telescope; hard-wood tripod. "Star Chart", "Hand Book of Heavens" plus directions included free.
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Used for multiplication, division, powers, roots, logs, trig, physics. Easy screwdriver assembly.
Stock No. 70,341- AE — $14.95 Pstpd.

CIRCULAR DIFFRACTION GRATING JEWELRY

A dazzling rainbow of color. Just as a prism breaks up light into full range of spectrum colors, so does Diffraction Grating.

Stock Nos.
30,349- AE — Earrings . . $2.75 Ppd.
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144 pages! Over 1,000 Bargains!
SCIENCE • MATH • OPTICS
For industry, hobbyists, etc.!

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-18 L on enclosed inquiry slip ▲

If you use stainless steel plate, this new booklet on Carlson services in stainless steel gives you worthwhile facts!

THIS new Carlson booklet, "Producing Stainless Steels . . . Exclusively," documents a unique, specialized service. Fully illustrated, it includes detailed sections on stainless steel plates, heads, forgings, special shapes, and other stainless products manufactured by Carlson.

Write for your free copy of the new Carlson booklet today.

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Producers of Stainless Steel
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Browning STAINLESS STEEL FLAT-VEYOR

Moves Smoother and Quieter, Lasts Longer

Browning FLAT-VEYOR is a materials handling system ideal for the bottling, canning, food and other industries which require rapid conveying with minimum vibration. Corrosion-free stainless steel chain coordinates perfectly with matching sprockets to *float* your product along without drag or chatter. One-piece design reduces wear; is stronger, easier to clean; eliminates troublesome attachments. Chain of case hardened steel also available, both types 3¼" to 7½" widths. Ask your Browning distributor for Bulletin CD103, which contains specifications. Browning Manufacturing Company, Maysville, Kentucky.

Browning POWER TRANSMISSION EQUIPMENT

▲ For more details circle NED-20 L on enclosed inquiry slip ▲

IT POWER HOISTS! BOOMS! ROTATES!
WITH ONE SIMPLE, LIGHT PORTABLE REMOTE CONTROL

With battery powered Auto Crane, one **unaided** man, from any position within 20' of the unit, can spot loads within the capacity of the unit to lift and reach. Above illustrates combination of hoist and adjustable 9' boom — plus 360° power rotation — which makes this versatile crane ideal for precision spotting as well as everyday material handling. Rigs up fast. When required, no Auto Crane owner has failed to receive service within hours! Auto Cranes are available in a wide range of models.

AUTO CRANE Company

Write today for illustrated literature, specifications and price lists on all models of AUTO CRANE.

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TULSA 12, OKLA.

Never a strain-with Auto Crane

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tracing and design aid

PORTABLE LIGHT BOX

Convenient—Saves time and space

- *1-7/16" thin, of light-weight, modern construction; when supplied with a straight edge and carrying case, becomes a self-contained and highly versatile drafting unit for desk or field.*

Light weight and thin design encourage use on regular drafting board, permit unit to be stored with reference books, ready for next user. It pays for itself in a short time.

- In addition to tracing applications, may be used to study interference and motion in superimposed layouts, or to check detail drawings
- used for display or examination of transparencies and X-rays
- can be used to trace on bristol board, Multilith and Mimeo mats, or to strip in and opaque negatives
- PORTA-TRACE fits under parallel rule on drafting board or may be supplied with locking T-square, other attachments. Flush top permits use with drawings larger than unit
- cool fluorescent lighting; stainless steel frame; shatter-proof diffuser top; built-in switch; rubber feet—available in 5 sizes up to 36" x 48", starting at $32.50

PORTA-TRACE INC.
50 Wall St., Binghamton, N. Y.

▲ For more details circle NED-22 L on enclosed inquiry slip ▲

CONCRETE REFINISHING PROBLEM?

FIX-IT . . . WITH LARSEN-MIX™

Now . . . a faster, easier, better way to produce thin, self-bonding cement toppings . . . from feather-edge to ¼".

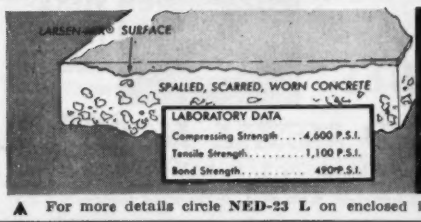
The answer is Larsen-Mix . . . an entirely new type of dry mix cement topping to which you just add water, mix and trowel on. Larsen-Mix is not an epoxy . . . not a latex . . . yet it easily meets the most exacting requirements.

It possesses an amazing compressive strength of 4,600 p.s.i., tensile strength of 1,100 p.s.i. and bond strength of 490 p.s.i.

Application of Larsen-Mix is foolproof. Color may be added. It is non-toxic, non-fuming, non-caustic, vermin-proof. Non-flammable. Contains no volatile organic solvents.

Get Larsen-Mix at your building materials or hardware dealer. If he doesn't have it, write us direct for complete information. *Address Box 5938-N*

LARSEN PRODUCTS CORPORATION *Bethesda 14, Md.*



in a fix . . . ? USE LARSEN MIX!

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New Stock Molded Knobs

AVAILABLE WITH OR WITHOUT SKIRTS

4 Standard Sizes

Meet MIL-P-14 Specs

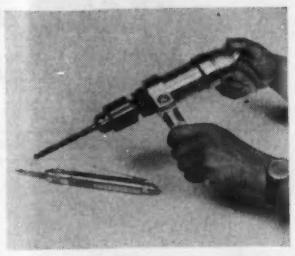
MODEL RB-1250-SK Illustrated

Molded of thermosetting phenolic or urea materials. Available in 4 standard sizes with nickel plated brass inserts for ¼" or ⅛" diameter shafts. Aluminum decorative inserts or skirts, etched and filled as desired . . . various anodized finishes, plain or radially spun. Write for new catalog illustrating Rogan's complete line of stock molded knobs.

ROGAN BROTHERS, Inc.
8001 N. MONTICELLO • SKOKIE, ILL.
Specializing In Stock Molded Knobs Since 1939

▲ For more details circle NED-24 L on enclosed inquiry slip ▲

COMPACT AIR DRILLS
meet close-quarter work needs



Designed to work in close quarters, line of 30 compact pneumatic drills includes miniature, angle, close corner, twin spindle, rack feed, straight and pistol grip units, as well as 30, 90, and 360-degree tools. Straight drills in this Desoutter line have small diameters for close grouping on 2-in. centers. Miniature units weighing 10½ oz and with a ⅛-in. capacity are no bigger than a cigar. The ½-in. capacity Model SR6, one of the smallest and lightest portable drills of its type, is equipped with a removable side handle. • **Newage Industries, Inc.**, 222 York Rd., Jenkintown, Pa.

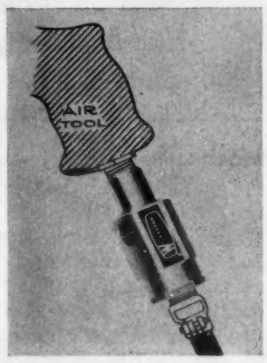
▲ For more details circle NED-25 L on enclosed inquiry slip ▲

SCREW SELECTOR GUIDE
identifies heads, washers, threads

Two revolving dials of the Screw Descriptor supply all the information needed for accurate ordering of screws by showing pictures and giving the correct nomenclature for numerous heads, threads, and washers. Information on the desired type of screw is read directly off the 9½ x 9½-in. free guide which has a decimal equivalent chart on its reverse side. • **Active Screw & Mfg. Co.**, Dept. 334, 4250 N. Pulaski Rd., Chicago 41, Ill.

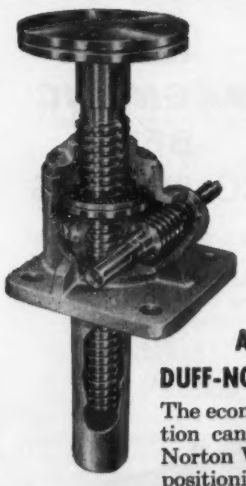
▲ For more details circle NED-26 L on enclosed inquiry slip ▲

AIR TOOL LUBRICATOR
fine mist type mounts in hose line



Mounting in any air hose line with ¼ or ⅛-in. connections, this small, light air tool lubricator holds enough lubricant for an 8-hr shift. It operates in any position, regardless of how tool is being used. The 1-oz reservoir can be filled while air pressure is on. Unit produces a fine oil mist, especially suited for nut runners, screwdrivers, drills, and other small air-operated tools. • **Wilkerson Corp.**, 1633 W. Girard Ave., Englewood, Colo.

▲ For more details circle NED-27 L on enclosed inquiry slip ▲



New Economy for Machinery Designers

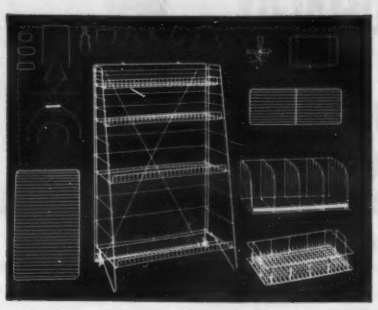
A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-28 L on enclosed inquiry slip ▲

If it's made of **WIRE** *. . . get in touch with* **FASFORM**



Just tell us what you need, and if it can be formed with wire we'll give you a blueprint and a cost estimate. Write Fasform Formed Wire Products Division, Heller Roberts Manufacturing Corp., 6115 Carnegie Ave., Cleveland 1, Ohio.

HELLER ROBERTS
Manufacturing Corporation

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ANY PRODUCT IS BETTER WITH CONTINENTAL RED SEAL POWER

Horizontal Shaft. Also available with 6:1 gear reduction (AR Series)—2 to 4 HP

Vertical shaft—2 to 3 HP

. . . because Continental air-cooled engines are built up to a standard of excellence, not down to a price. Their rugged design and construction assures long dependable service with minimum down-time. Backed by a world-wide service organization.

Continental Motors Corporation
INDUSTRIAL AIR-COOLED ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN

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Stop theft or loss of tools and parts--

MARK THEM with an IDEAL Electric Marking Tool

Cutting with 7200 adjustable strokes per minute, the IDEAL Electric Marker is as easy to use as a pencil. It takes just a few seconds to cut names, stock numbers, part numbers or sizes on parts and equipment on the production line, in warehouses, in toolrooms, or laboratories. Special nameplates may be eliminated since the alloy or diamond points mark directly on anything from hard rubber to steel and glass. It operates on AC current. Sold through leading electrical distributors in America. In Canada: Irving Smith, Ltd., Montreal.

IDEAL

IDEAL INDUSTRIES, Inc.
1032-K Park Ave., Sycamore, Illinois
PLEASE SEND Catalog data on Electric Marker.
Name_____
Company_____
Address_____
City_____ Zone____ State____

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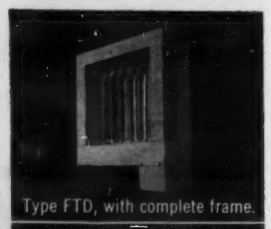
new!

CHROMALOX ELECTRIC FINTUBE AIRDUCT HEATERS

for central heating and air-conditioning ducts


Type FTD, with complete frame.

Type FFT, slip-in.

RUGGED —Unbreakable metal-sheathed heating element. Fins are continuously furnace brazed to the sheath. Both element and fin have thick ceramic coat for protection against atmospheric corrosion.

RELIABLE —U.L. listed. All current-carrying parts enclosed. Built-in cutout eliminates danger from air flow stoppage or reversal. Constant wattage for life of element. For new or old ducts, up to 36" x 48". Ratings from 120 to 550 volts, up to 100 kilowatts. Special designs can be made to your specifications.

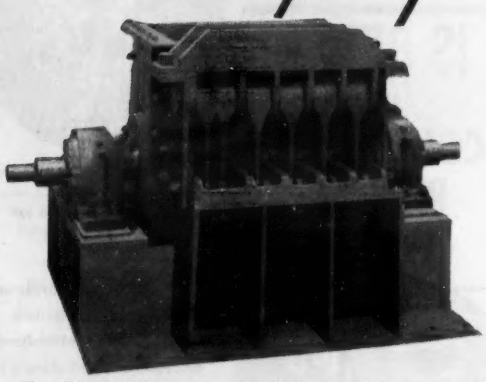
FREE—Write for new Catalog F40100. Edwin L. Wiegand Company, 7500 Thomas Boulevard, Pittsburgh 8, Pa.

32931

EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard • Pittsburgh 8, Pa. • CHurchill 2-6400
CHROMALOX ELECTRIC HEAT

For more details circle NED-32 L on enclosed inquiry slip

HOG GRINDS Anything!



The NEW KC MODEL of the Montgomery BLO°HOG grinds bark — bricks — wire and steel strapping — nails — bolts — rubber tires — paper — plaster board — tile — dunnage — and many other items for fuel or automatic waste disposal systems.

Sizes range from 21" with capacity near 20,000 lbs. per hour to 57" model with 100,000 lbs. per hour capacity.

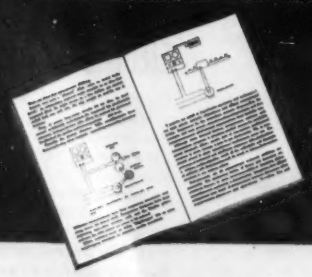
BUILT-IN PROTECTION AGAINST HEAVY TRAMP STEEL. PUNCH AND DIE ACTION — "DO THE JOB" GUARANTEE.

Manufactured by

JACKSONVILLE BLOW PIPE CO.
P.O. Box 3687 • Jacksonville, Florida
Telephone EL 5-5671

For more details circle NED-33 L on enclosed inquiry slip

FREE BOOK tells how to... END MACHINERY DAMAGE STOP MATERIAL SPOILAGE



Read how easily-installed standard Mek load controls can protect your production machinery, conveyors, other plant equipment. Simple, low-cost Mek controls sense machine overloads, conveyor jams, excess speed, pressure, or torque. Respond instantly to protect equipment, tools, dies, material — automatically trigger desired reaction: *stop, reverse, trip, signal, recycle.* Control, regulate, and automate machinery. Used in hundreds of plants from metal fabricating to food processing.

Send for free illustrated book showing actual plant installations!

MEK
Machinery Electrification, Inc.
66 Hudson St., Northboro, Mass.

For more details circle NED-34 L on enclosed inquiry slip

NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

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BPA NBP

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Capabilities of Acme-Gridley multiple spindle bar and chucking automatics shown in 64-page Bulletin CA-60 make possible a wide range of machining operations. Normal and many secondary operations are illustrated in the 39 bar machine and 18 chucking machine applications. Line includes 4, 6, and 8-spindle machines ranging in capacities from 7/16 to 7¾ in. Write on letterhead to National Acme Co., 170 E. 131st St., Cleveland 8, Ohio.

For more details circle NED-35 L on enclosed inquiry slip

NEW MAGNETIC BELT CONVEYORS

Available in wide range of sizes. Ideal for use where space is limited or where other conditions prevent use of conventional types.

Under the thin carrying belt, a metal bed with Magna Rail holds ferrous parts securely positioned. Operated at angles up to 90° vertical and under ideal conditions may even be inverted horizontally.

LOGAN CO. 215 CABEL ST. LOUISVILLE 6, KY.

Logan Conveyors

For more details circle NED-36 L on enclosed inquiry slip

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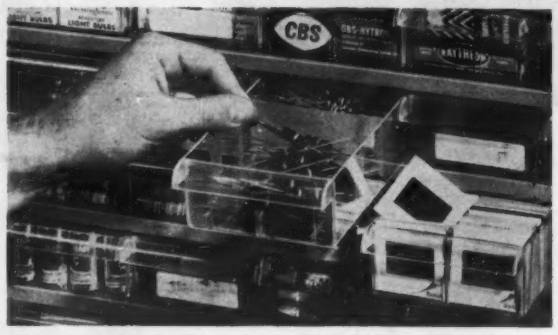
Conserve valuable space, reduce costly "looking" time with Akro-Mils Small Parts Storage Cabinets. 102 Stock models available, others can be built to your specifications.



Complete study in the science of efficient small parts storage for offices, factories, laboratories, homes.

SEND FOR FREE STUDY! Ask for Bulletin F. S.

A-M

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Box 989-F • Akron 9, Ohio

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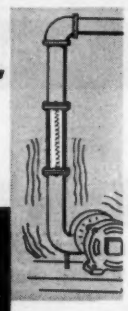
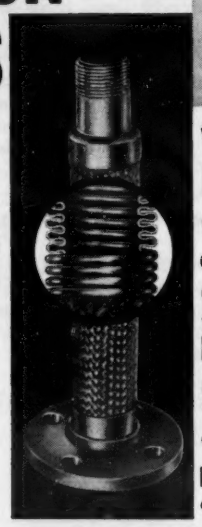


IN STAINLESS STEEL, MONEL, BRONZE.....
. . . CUSTOM ENGINEERED FAST.....TO *CALM YOUR JITTERY PIPELINES*



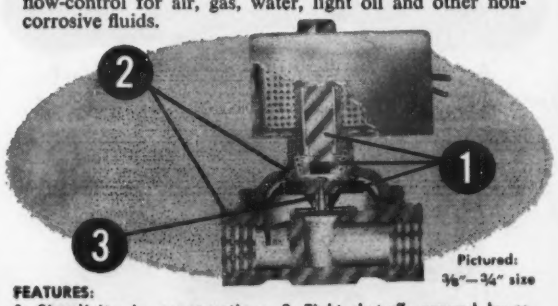
Write NOW for your copy of the NEW ALLFLEX VIBRA-TAMER DATALOG 602

ALLIED METAL HOSE CO.
3788 Ninth St., Long Island City 1, N. Y. Phone: STillwell 4-5173

For more details circle NED-38 L on enclosed inquiry slip

New complete line of 2-way solenoid valves covers full 3/8" to 3" range

ASCO's new line of general purpose packless valves controls pressures to 350 p.s.i. . . . provides dependable flow-control for air, gas, water, light oil and other non-corrosive fluids.



Pictured: 3/8"—3/4" size

FEATURES:

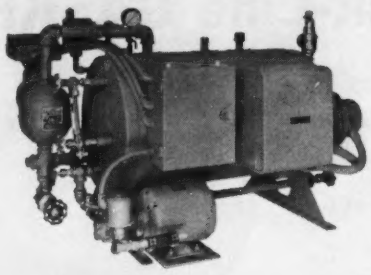
1. Simplicity in construction: Only 3 operational parts: all stainless steel core, stainless steel spring, Hycar diaphragm. (bronze piston, 1¼"—3" sizes)
2. Ruggedness: forged brass bonnet, and body insure freedom from porosity.
3. Tight shut-off: assured by resilient disc construction.
   - Compactness: 2¾" face to face, 3 13/16" overall height. (Normally closed ⅜" and ½" sizes)
   - Mounts in any position: normally open or closed.

Write for Catalog 202, covering ASCO line of solenoid valves and for the Solenoid Valve Stock List and Selection Guide.

ASCO Valves
Automatic Switch Co. 52E HANOVER ROAD, FLORHAM PARK, N. J., FRONTIER 7-4600

ASCO

For more details circle NED-39 L on enclosed inquiry slip



NEW—ELECTRIC STEAM BOILERS

10 sizes — .6 H.P. to 6 H.P.
6 KW to 60 KW.
240 or 480 volts normal
208 " available
Highly sensitive adjusting controls.

ALL SIZES ASME construction,
National Board inspected,
Underwriters listed.
100 lbs. max. operating pressure.

Perfect for department store alteration rooms, plastic laboratories, hospitals, etc. Also full line of small gas fired and oil fired boilers, 100 to 125 lbs.

P. M. LATTNER MFG. COMPANY
Cedar Rapids, Iowa

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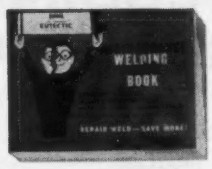
GET THESE FREE FACTS ON MAINTENANCE WELDING

New 144-Page Pocket-Sized Maintenance



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from EUTECTIC

originators of the Low Heat Input process

Handy pocket guide filled with welding and soldering information:

- Torch and arc techniques
- Settings and amperages
- How to choose the right alloy
- Meanings of welding terms
- How alloying takes place
- Descriptions of rods and electrodes
- Tips on color matching
- Tips on machinable deposits
- Ways to save on weld metal

Completely indexed and cross-indexed . . . everything you need to know. Send for your copy today.

EUTECTIC WELDING ALLOYS CORP.
40-40 172nd Street, Flushing 58, New York

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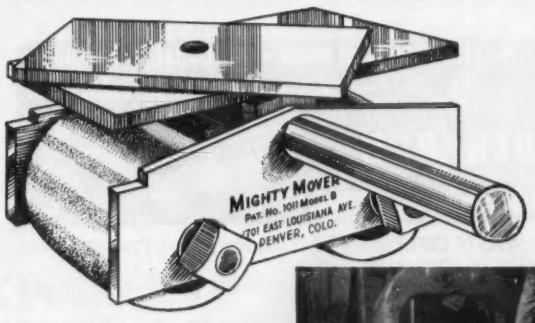

This is the

MIGHTY MOVER

A set of 4 can carry 50 TONS!

These tough little dollies roll the heaviest, bulkiest machines with ease! Using a set of Mighty Mover heavy duty dollies, and pry-bars, it is merely routine for two men to move a 30,000 lb. screw machine 70 yards in less than half an hour! Mighty Mover dollies have two 4-inch roller bearing cast iron wheels, tough ½" side plates and top plate that has 360° directional control. Each dolly is 9" long, 5" wide and high, weighs 43 lbs. and can carry 25,000 lbs! They are the smartest answer yet to your plant's moving problems. Write today for prices, shipping information. PHONE: SPruce 7-3946

MIGHTY MOVER COMPANY
1701 EAST LOUISIANA AVENUE DENVER 10, COLORADO

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VOLTAGE LEAK DETECTOR
warns of 60,000-ohm leak to ground

Leakage to ground of up to 60,000 ohms in isolated voltage systems is detected by this UL-approved warning unit. It will allow no more than 2 ma to pass through the voltage system in which it is installed. A green signal light indicates the normal ungrounded condition. When ground occurs, a red light goes on and a buzzer sounds a warning. Buzzer can be turned off, but the red light remains on until the fault is corrected. • **Zenith Electric Co.**, Dept. ND-5, 152 W. Walton St., Chicago 10, Ill.

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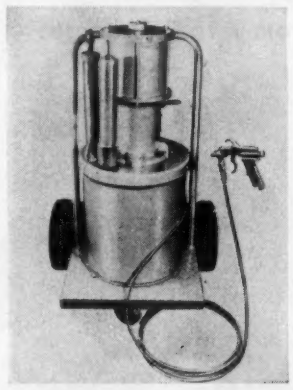
AIRLESS PAINTING SYSTEM
sprays heated, unheated materials



Operating pressures to 3000 psi are developed by the HydraAirless 30 system for airless spray painting with the total atomization H-Gun. The long stroke Atlas II pump is powered by a 5½-in. air motor and will handle up to four manual or automatic guns. The HydraAirless 30 has ample reserve power for spraying heavy materials. It is available heated or unheated, fixed or portable, in 10 and 55-gal sizes, and also as a standpipe unit for circulating systems. • **Spee-Flo Co.**, 6614 Harrisburg Blvd., Houston 11, Tex.

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PADDED SHIPPING BAGS
made in four new sizes

Wide variety of products, including catalogs, bottled liquids, work clothing, measuring devices, hardware, and slide rules, can be packaged for safe handling, shipping, or mailing in these padded shipping bags. In addition to the ten stock sizes previously carried, they are now available in four new sizes: 6¼ x 14½ in., 5½ x 16 in., 4 x 19 in., and 12½ x 14½ in. • **Jiffy Mfg. Co.**, 360 Florence Ave., Hillside, N. J.

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300% FASTER ULTRASONIC CLEANING WITH SELF-TUNING*

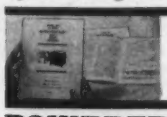
Self-tuning Autosonic cleaners by Powertron clean faster, better and cheaper because they: Eliminate operator training and monitoring; Release labor for other work; Reduce rejects; Save on solvents.

HERE'S HOW IT'S DONE

The Autosonic is electronically self-tuned by its exclusive feedback transducer and requires no tuning knobs or meters. A simple switch is the only control.

Only Autosonic cleaners give you consistent peak performance cleaning regardless of load, solution level or temperature, contamination or operator inattention.

Powertron's complete line of Autosonic generators, tanks, cabinet models, degreasers and immersible transducers is immediately available from stock. Ask for free demonstration by Sales Engineer. *Case Histories on File.



Write for Data Sheets and free booklet: HOW TO CLEAN ULTRASONICALLY WITH SELF-TUNING.

POWERTRON ULTRASONICS CORP.
DEPT. NED-11 • PATTERSON PLACE, ROOSEVELT FIELD GARDEN CITY, LONG ISLAND, NEW YORK • Pioneer 1-3220

▲ For more details circle NED-46 L on enclosed inquiry slip ▲

NEW digitork STEP MOTOR BULLETINS
DATA SHEETS
APPLICATION NOTES
Just out!

DIGITORK is a totally new, *completely* digital torque-producing actuator that responds to discrete increments of motion — one step for each pulse.

It is the first infinitely variable speed device capable of maintaining exact, constant speeds in frequency ranges from 0 to 3 kc.

Learn how DIGITORK's unique stepping motor principle can solve your problem in precision control and power positioning. Write today.

First and only Industrial Digital motor of its kind!

PACE CONTROLS CORP. Needham Heights 94, Massachusetts

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NEW!

the Foxboro "Universal" pneumatic transmitter

Think of it! One indicating transmitter with measuring elements for 6 different process variables. Pressure — temperature — liquid level — differential pressure — dew point — flow . . . all six with guaranteed accuracy of ±½ of 1%. Universal calibration and simplicity of servicing . . . extends benefits of standardization throughout your whole plant. Find out about the new M/45 — write for Bulletin 13-30. The Foxboro Company, 6611 Neponset Avenue, Foxboro, Massachusetts.

FOXBORO
REG. U. S. PAT OFF

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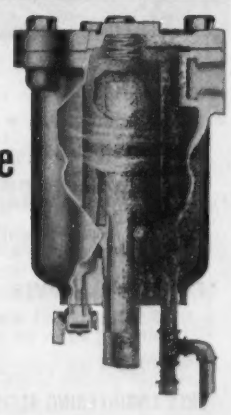
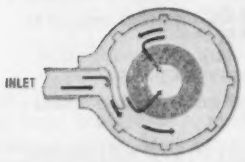
ADAMS Poro-Stone Air Filters Keep Air Instruments Safe





Adams Poro-Stone Air Filters, removing entrained water, oil and dirt from your compressed air, assure less maintenance and longer life for your air instruments.

Passing through the millions of minute passages in the rigid Poro-Stone tube, air is literally scrubbed clean of damaging foreign matter.

To relieve the load on the filter element, larger particles and droplets are knocked out by centrifugal separation immediately upon entering the filter housing. Non-absorbent, chemically inert Poro-Stone stays open for maximum efficiency. Occasional rinsing in solvent is all that's needed.

See how Adams Poro-Stone Air Filters can give longer life to your air instruments. Bulletin 117 is complete with design diagrams, specifying tables and application data. Write for your copy today!

R. P. ADAMS CO., INC.
227 EAST PARK DRIVE BUFFALO 17, NEW YORK

▲ For more details circle NED-49 L on enclosed inquiry slip ▲

AMERESCO* PERMETER®

HAND PERSPIRATION
FINGER PRINTS
CORROSION

One hand can damage your work pieces. Hand perspiration contains various acids and salts. Therefore finger prints are not harmless. They are chemically corrosive to your product. The result is interruptions in assembly and inspection — idle worker — costly rejects — customer complaints.

Place your personnel with a Permeter in every department.

*Trademark

AMERESCO, INC.
4 Center Avenue, Little Falls, N. J.

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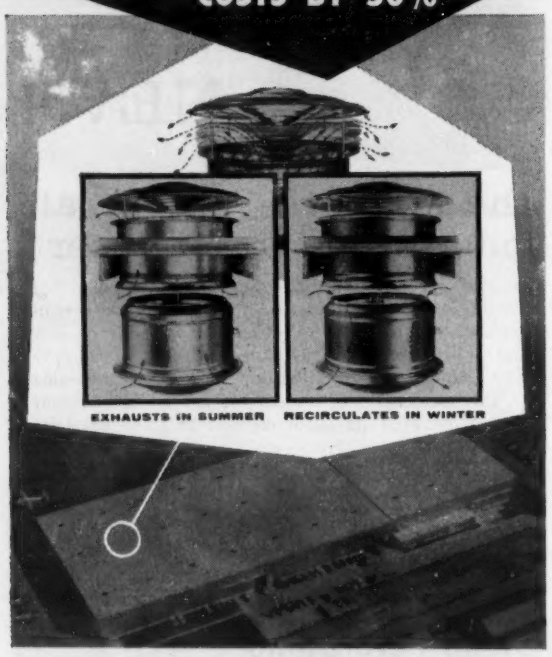
GENIE-AIR DUAL PURPOSE VENTILATOR CUTS INDUSTRIAL HEATING COSTS BY 50%



A "new technical way" has been found for revolutionizing the standard powered exhaust ventilator into a new dual-purpose unit that fully completes industrial winter heating systems.

RECIRCULATES IN WINTER
Recovers heat trapped under the roof line and returns it to the floor area

Fuel costs and initial heating equipment costs can be reduced as much as 50%

EXHAUSTS IN SUMMER
Simply position a selective control switch to exhaust air from within the building

SIZES in this model range from 3,000 to 23,000 CFM

FREE ENGINEERING ASSISTANCE AVAILABLE.

NATIONAL REPRESENTATION is now being chosen

GENIE-AIR PRODUCTS,
a Div. of N. T. W. Corporation
3001 E. 11th Street
Los Angeles 23, Calif.
AN 9-7341

Please send me Free literature Dept. NED

Name_____ Title_____

Company_____

Address_____

City_____

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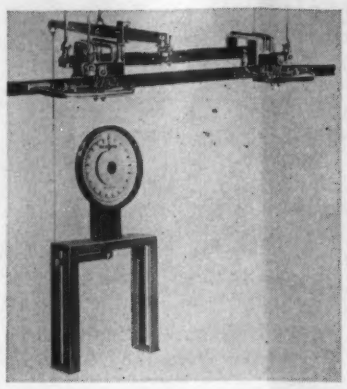
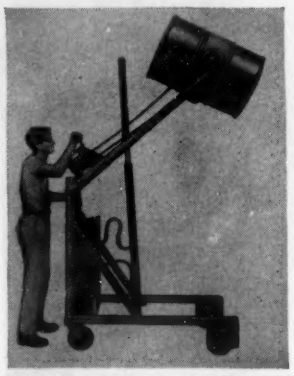
OVERHEAD TRACK SCALES
in 500 and 1000-lb capacities



Maximum accuracy under hard usage is assured by Series 1100 mechanism incorporated in the Detecto Jr. heavy duty track scales. They meet Federal tolerance requirements for industrial weighing. The overhead units are available in capacities of 500 lb by 8 oz and 1000 lb by 1 lb. Models are also offered without stand for shelf mounting. • Detecto Scales, Inc., 540 Park Ave., Brooklyn 5, N. Y.

▲ For more details circle NED-52 L on enclosed inquiry slip ▲

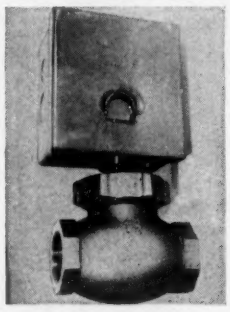
POWERED DRUM LIFT
empties drum from 7 to 8-ft height



This mobile powered drum lift can raise steel or fiber drums to empty contents at heights of 7 to 8 ft. Unit can be maneuvered in areas of minimum headroom and in cramped quarters. It has 8-in. diameter sparkproof wheels and is available with alternating-current or battery-operated power packs. • Sterling Fleischman Co., Box 94, Broomall, Pa.

▲ For more details circle NED-53 L on enclosed inquiry slip ▲

SOLENOID VALVES
eight sizes from 3/8 to 2 1/2 in.



Spring loaded for positive closing, Type MDW direct-acting solenoid valves are a two-way packed type made of bronze. They feature full pipe area orifices, solenoid mounted in a hinged electrical knock-out box, epoxy resin encapsulated coils, and renewable composition discs. Eight sizes from 3/8 to 2 1/2 in. are offered for vacuum exhaust and drain lines, tank level and supply controls, filling equipment, and other applications. Maximum pressures vary from 40 psi in 3/8 and 1/2-in. sizes to 4 psi for the 2-in. size. Price for 3/8 and 1/2-in. sizes is $35. • J. D. Gould Co., 4707 Massachusetts Ave., Indianapolis 18, Ind.

▲ For more details circle NED-54 L on enclosed inquiry slip ▲

Another Measurable Advantage from General Electric

NEW INDUSTRIAL MINIATURE OIL-TIGHT PUSH BUTTONS

General Electric's complete new line of CR104 Industrial Miniature Oil-tight Push Buttons offers you distinct, *measurable* advantages:

• FULL LINE—Now you can design your entire panels with miniature units. A wide variety of operators is available, plus various modifications, special units, and nameplates. Color coding of *both* operators and rings provides you the flexibility of many different color combinations.

• PANEL SPACE SAVINGS—You can cut panel space at least 40 percent by standardizing on new G-E miniature oil-tight push buttons.

NEW FREE BULLETIN! Write for GEA-7127, Schenectady 5, N. Y., or contact your local G-E Apparatus Sales Office. 811-12

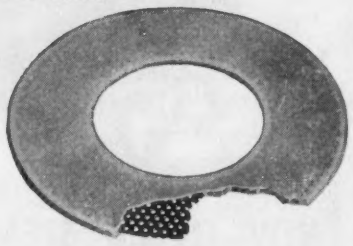
GENERAL ELECTRIC

▲ For more details circle NED-55 L on enclosed inquiry slip ▲

Task-Line GASKETS

Teflon* and Steel Knit

NEW



No Blow-out

No Creep

Reusable

Teflon is an inert material which resists practically all chemicals and solvents. Usable at temperatures from —450°F. to 500°F.

Task-Line gaskets are Teflon molded around perforated steel. The steel, completely encased in Teflon, prevents cold flow under pressure.

Task-Line gaskets are reusable.

Immediate delivery on sizes from 1" through 4", 150 psi rating. Other sizes on special order.

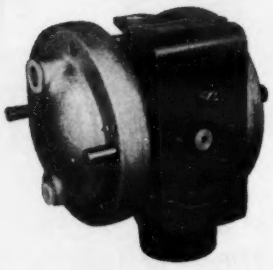
*Teflon is a Reg. Trade Mark of Dupont

Modern Industrial Plastics Div.
P. O. Box 1019, Dayton 1, Ohio

DURCO Serves Industry

▲ For more details circle NED-56 L on enclosed inquiry slip ▲

DON'T WORRY ABOUT OVERRANGING THIS METER BODY



The exclusive Barton rupture-proof dual bellows meter is not affected by overranging, maintains calibration and requires minimum maintenance.

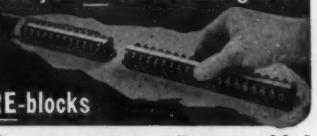
The 199 meter body is the heart of an entire line of precise instruments that includes controllers, indicators, recorders, integrators, transmitters and switches. The 199 meter body features temperature compensation for maximum stability, adjustable pulsation dampener for positive response control, top and bottom pressure taps for self-draining and easy venting. The 199 is available in a full range of differential pressures up to 50 psi and static pressure ratings up to 6,000 psi. For the ultimate in dependability, accuracy and minimum maintenance, specify Barton.

BARTON® INSTRUMENT CORPORATION
580 MONTEREY PASS ROAD • MONTEREY PARK, CALIFORNIA

▲ For more details circle NED-57 L on enclosed inquiry slip ▲

No other terminal block — sectional or one-piece —gives you all the advantages of

BUCHANAN



MD Sectional pres-SURE-blocks

NO WASTE CIRCUITS—Save money, space. Pre-assembled lengths of 20 snap-fit sections.
LESS INVENTORY—Only 2 different parts—contact and end sections.
MORE CIRCUITS IN AVAILABLE SPACE—Group common wires (equal to 1 #22 thru 1 #8) in tubular contacts on 7/16" centers. Less jumpering. 10 circuits 4 7/16", plus 21/32" for each complete block.
NO TERMINALS OR LUGS—Tubular contacts provide secure, efficient connections.
NO BLIND MARKING—Unobscured top marking area. Integral or separable strips.
QUICKER TO INSTALL AND CHANGE—Hand assembled. Mount only every 12 sections. Pull off or add circuit groups.
LOW INSTALLED COSTS—Competitive with conventional blocks of similar rating.

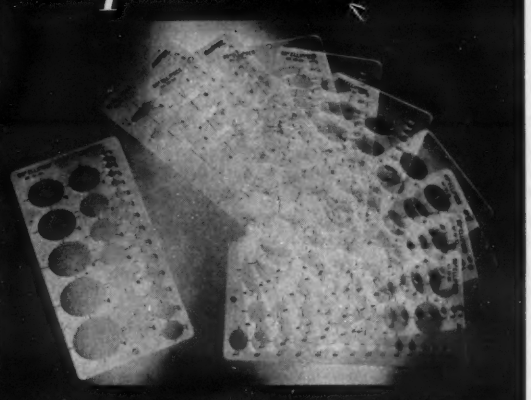
Separate Sections or Factory-Assembled Blocks
Flat Base or Channel Mounting • Tubular or Strap-Screw Contacts
Fanning Strips • Conservative 750-volt A.I.E.E. rating

Tubular contacts listed by U.L. Blocks listed for 600 V by C.S.A. Write for Bulletin J-11

BUCHANAN
BUCHANAN ELECTRICAL PRODUCTS CORPORATION
HILLSIDE, NEW JERSEY

▲ For more details circle NED-58 L on enclosed inquiry slip ▲

ellipses • • no. 70 series



TEN TIME-SAVER TEMPLATES
FROM 15° TO 60° IN INCREMENTS OF 5°
MAJOR AXES FROM 1/4" TO 2"
INDIVIDUAL TEMPLATES — $2.00 EACH
SET OF TEN TEMPLATES — $18.00

There are more than 100 Rapidesign Templates—all of which are better made... more useful and lesser priced.

CATALOGUE NO. 60 AVAILABLE UPON REQUEST

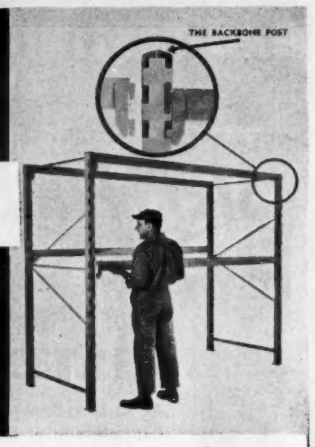
RAPIDESIGN INC.
P. O. BOX 429, BURBANK, CALIFORNIA

▲ For more details circle NED-59 L on enclosed inquiry slip ▲

NEED RACKS? Try the best

Now! fico

Backbone® Racks are available in STANDARD STOCK SIZES



LOW COST
Uprights—96" high 30" to 42" wide $16.40

Shelf-beams	Capacity	
54"	2,500#	6.45 pr.
90"	4,400	13.15
90"	6,600	16.15
106"	3,600	14.95
106"	6,200	18.40

Fore and Aft Brace if Desired at $2.00 each

NOTE: These features
- Solid steel backbone design
- Horizontal & diagonal bracing foot plates
- Adjustment on 4" centers
- Fully locked
- Easy erection—only 2 basic parts
- Your choice of upright depths
- All sizes available at comparable prices

Send in your order for a sample unit or write for free survey sheet. Shipments from stock.

MIDLAND EQUIPMENT DIV.
485 South 21st Street, Irvington 11, N. J. • ESsex 3-6500

▲ For more details circle NED-60 L on enclosed inquiry slip ▲

MOVE CARTONS, BOXES, BALES or BAGS *FAST*, EASILY AT LOW COST!

WITH THE AMAZING
Ve-Be-Veyor

- LIGHT WEIGHT—EASY TO MOVE
- UP TO 30% INCLINE
- HIGH POWER
- PLUGS IN ANY 110-120 OUTLET
- FULL 12" RUFF-TOP BELT

ONLY $461.00 for 12 foot model shown. 16 foot and 20 foot models plus extra accessories are available.
Prices F.O.B. Morton Grove plus state taxes.

★ **SEND FOR FREE BULLETIN**
Get all the dope on this high speed, versatile, little "powerhouse" conveyor. Does 1001 jobs in plants of all kinds. ASK FOR YOUR LITERATURE TODAY.

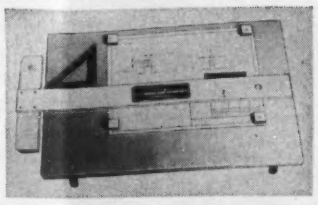
Farquhar
CONVEYOR SYSTEMS, INC.
A-B FARQUHAR DIVISION
6451 W. Main Street • Morton Grove, Ill.
Phone Chicago—JU 8-0200

See your CSI-Farquhar Dealer or Write Direct!

The complete line of custom and pre-engineered conveyor systems

▲ For more details circle NED-61 L on enclosed inquiry slip ▲

PORTABLE DRAFTING BOARD
magnets hold paper in place



Portable and light in weight, this desk top drafting board is available in 9 x 12, 12 x 18, and 18 x 24-in. sizes. Magnets hold the tracing or drawing paper on the board. Drafting tape can also be used. Metal board has rubber cushioned feet and legs which fold to a 1-in. depth for easy carrying. Three sizes are furnished with 4, 6, and 8 magnets, respectively. • **J. E. Menaugh Co.,** 4555 Broadway, Chicago 40, Ill.

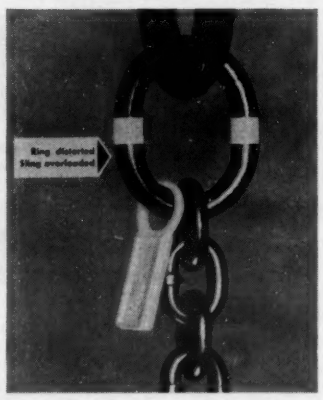
▲ For more details circle NED-62 L on enclosed inquiry slip ▲

SAFETY GLASSES
six colors made in range of sizes

Seven-barrel hinge for strength, Duragrip screw which keeps temples tight, and Lock-A-Lens safety ridge which holds the lens in place under impact are features of Durasafe safety glasses. A wide range of bridge and eye sizes is made. Offered with or without side shields, they have wide anodized aluminum temples, solid color plastic spatula, and plastic comfort cable. Six basic colors are smoke, pink crystal, mahogany, two-tone smoke on crystal, two-tone mahogany on crystal, and two-tone black on crystal. • **American Optical Co.,** 1492 Mechanic St., Southbridge, Mass.

▲ For more details circle NED-63 L on enclosed inquiry slip ▲

SLING CHAINS
warning ring indicates overloading



When Sentry Slings are overloaded, a built-in ring elongates to give warning. Although stronger than the chain itself, the ring changes shape before permanent damage can occur to the sling. Rings are easily replaced at the factory, keeping repair costs to a minimum. Slings are available in all types and are made from Cam-Alloy steel chain. • **Campbell Chain Co.,** Norway & Elm Streets, York, Pa.

▲ For more details circle NED-64 L on enclosed inquiry slip ▲

If only we had 5000 salesmen . . .

. . . we could make regular personal calls on every one of our present and potential users for HAVIR high production automatic presses. Then you'd have the whole picture in a jiffy on all eleven models from 5 ton to 200 ton . . . HAVIR designed and built for high accuracy work and longer die life under continuous heavy duty service. And you'd get quick direct answers on all the possible variations and optional equipment which enable HAVIR presses to fit your production needs perfectly.

But until that day comes along this new 8-page FREE catalog is our best way . . . to introduce you to new HAVIR ideas and to invite you to contact your HAVIR distributor.

Put this coupon in the mail today

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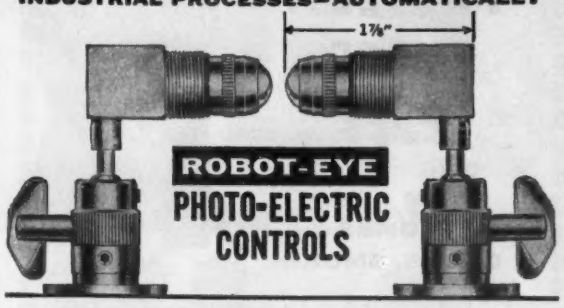
442 Cleveland Avenue
St. Paul 4, Minnesota

HAVIR MANUFACTURING CO.
442 Cleveland Ave., St. Paul 4, Minnesota
Gentlemen: Please send us your new FREE 8-page catalog on HAVIR hi-production automatic presses.
Firm Name _____
Street _____
City _____ Zone ____ State ____
Your Name _____
Title _____

▲ For more details circle NED-65 L on enclosed inquiry slip ▲

count, inspect, control
INDUSTRIAL PROCESSES—AUTOMATICALLY



Transistorized and Tube **AMPLIFIERS**

Plug-in relays, receptacles for plug-in connection of lamps and cells. Additional Plug-in accessories include counters and time delays.

MINIATURIZED
Small, for "tight-spot" installation, yet rugged for long service. Accurate, for precise automatic control in virtually any industry.

INTER-CONNECTING
Plug-in terminals available for quick connection to any of a wide range of Amplifiers. This design enables you to select the most economical amplifier for your job requirements.

INEXPENSIVE
Standard Set P-5 is $17. Set P-5S is $21. Amplifiers start at $39.50. For complete data, write for Brochure CP11.

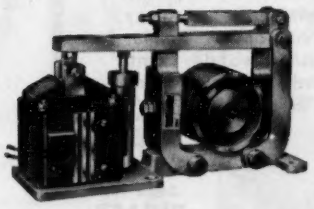
standard INSTRUMENT CORPORATION
657 BROADWAY, NEW YORK 12, N.Y.
in Canada: STANDARD INSTRUMENTS (CANADA) LTD.
767 Warden Ave., Scarborough • Toronto, Ontario

▲ For more details circle NED-66 L on enclosed inquiry slip ▲

TROMBETTA SOLENOID CORP.
MILWAUKEE WISCONSIN
U.S.A
329 N. Milwaukee St. • Phone BRoadway 1-8347

TS-100 LINE OF SOLENOID-OPERATED BRAKES
From 3 to 2100 ft. lbs. Capacity

- Longer Periods Between Adjustments — Less Down Time!
- Laminated Long Stroke Solenoids — Fast Releasing, Fast Operating.
- Lining with Most Constant Coefficient of Friction Gives Uniform Service.



TS-118 SOLENOID OPERATED BRAKE

Long stroke solenoids permit use of 65% of stroke to release brake — 35% of stroke is reserved for lining wear. Extremely flat spring characteristics: no change of torque occurs with wear of lining. Available in wheel diameters from 2.5" to 14". For alternating current, direct current (series or shunt); hydraulic or air operation. Write for Bulletins EE-180, EE-220.

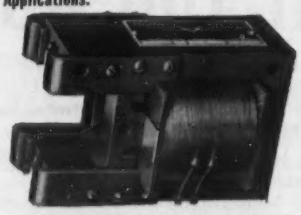
MANUFACTURERS OF HIGHEST CLASS INDUSTRIAL SOLENOIDS OF ALL CAPACITIES FOR ALL APPLICATIONS
IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

▲ For more details circle NED-67 L on enclosed inquiry slip ▲

TROMBETTA SOLENOID CORP.
MILWAUKEE WISCONSIN
U.S.A
329 N. Milwaukee St. • Phone BRoadway 1-8347

NA-700 LINE OF SHORT STROKE SOLENOIDS
PLUS FEATURES, SUPERIOR DESIGN DELIVER PEAK PERFORMANCE

- Positive 3-Point Contact and Non-Magnetic Plunger Guides Assure Much Longer Solenoid Life.
- Non-Magnetic Plunger Guides Prevent Sticking-Dragging, Permitting Solenoid To Be Mounted in Any Position Without Affecting Operation or Life Expectancy.
- 230 Standard Types and Sizes to Take Care of Any and All High Class Applications.



NA-764 SHORT STROKE SOLENOID

Specially adapted for hydraulic and air valve operation. Solenoids may be mounted in any position at any angle to the vertical without affecting operation. Silent operation in sealed position. Interchangeable size for size with entire line of National Acme line of solenoids. Pull rating same for all voltages and frequencies, AC as well as DC. Write for bulletin EE-178.
IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

▲ For more details circle NED-68 L on enclosed inquiry slip ▲

Special goggles provide safety for workmen, relieve tired eyes.

FOG-PROOF GAS-TIGHT GOGGLES

Hug face securely but comfortably. Can be worn with any respirator. Fog is removed from the lenses by an easy nod or shake of the head. A few drops of water on inner wall of lens do the trick.

COVER goggles and respirators are known world over for reliability. Send for literature.

See your safety equipment supplier or order your sample direct — $2.00 postpaid. Write today.

H. S. COVER
Dept. 1105 South Bend 14, Indiana
"Respirators for Industry Since 1894"

▲ For more details circle NED-69 L on enclosed inquiry slip ▲

LIFTS and PULLS at ANY angle . . .

Move machinery, pull boiler tubes, join belts, set pipe, lift motors—for 1001 uses pick up a

CM PULLER

¾ TON MODEL WEIGHS ONLY 14 LBS.

● Operated by a ratchet handle requiring no more effort than an automobile jack. Objects up to 12,000 lbs. can be lifted or pulled . . . vertically, horizontally or at any angle. Anyone can operate. Automatic brake holds loads at any point. Inexpensive. Sturdy. Safe. CM-Alloy flexible welded load chain.

Send for PULLER Literature Illustrated and with prices.

Capacities: ¾ to 6 ton

CM HOISTS
CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: COLUMBUS McKINNON LIMITED, ST. CATHARINES, ONTARIO

▲ For more details circle NED-70 L on enclosed inquiry slip ▲

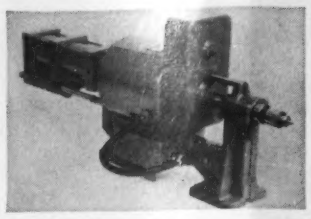
THIS FREE BOOK COULD HELP PREVENT AN ACCIDENT WHERE YOU WORK

You owe it to yourself, and the men you supervise, to learn all about the safety, comfort, and economy of USS Multigrip Floor Plate. This free booklet illustrates the many applications for Multigrip—from plant floors to derrick platforms to ship ladders. What you see in these pages may prevent an accident in *your* future.

Ask for the USS Multigrip booklet at your nearest Steel Service Center or U. S. Steel district sales office. Or write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania. *USS is a registered trademark*

United States Steel USS

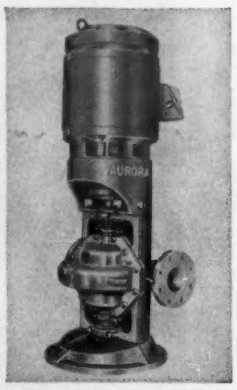
SMALL HOLE DRILL
air-fed unit has 3½-in. stroke



A 3½-in. stroke is featured by Model 113-3½ small hole drilling machine with chuck capacity to ¼ in. for production setups. Electric motor spindle is air fed under hydraulic control. Seven sets of timing belts and pulleys provide spindle speeds from 750 to 15,800 rpm. ● **Electro Mechano Co.**, 241 E. Erie St., Milwaukee 2, Wis.

▲ For more details circle NED-71 L on enclosed inquiry slip ▲

VERTICAL SPLIT CASE PUMPS
water capacities to 6000 gpm

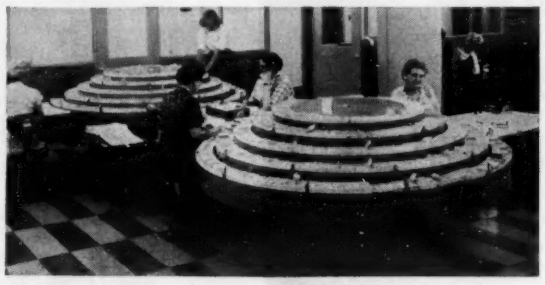


Marine, industrial water, booster, cooling tower, fuel, and boiler feed service where floor space is limited can be handled by OJV and OMV vertical split case centrifugal pumps. Case is split parallel to impeller shaft, with suction and discharge flanges integral in the vertical base section. Rotating unit is easily removed for maintenance without disturbing suction or discharge connections. Capacities range to 6000 gpm and heads to 380 ft. Double suction impellers are hydraulically and dynamically balanced for smooth, quiet operation. ● **New York Air Brake Co.**, Aurora Pump Div., Loucks Street, Aurora, Ill.

▲ For more details circle NED-72 L on enclosed inquiry slip ▲

ROTARY FILE
brings 125,000 records within reach

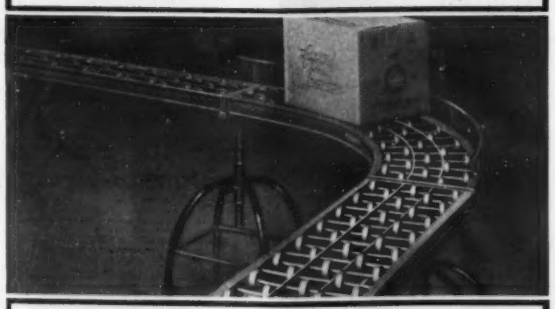
More than 125,000 record cards are brought within easy reach by this 7-ft diameter rotary file unit with five step-back tiers that rotate smoothly in three inde-



pendently moving sections. Cards travel to the operator, speeding up finding and filing. Typical installation shown places about 250,000 cards in two rotary units with accessory work tables in an 18 x 7-ft floor space. ● **Acme Visible Records, Inc.**, Crozet, Va.

▲ For more details circle NED-73 L on enclosed inquiry slip ▲

As Dependable as Gravity and as Inexpensive!
BUSCHMAN CONVEYORS



Savings far exceed the low cost of Buschman wheel, roller and belt portables, pre-engineered for particular functions, in all kinds of plants, everywhere. Popular sizes in stock. Buschman also designs special systems; builds standard stocked parts into wheel, roller and belt type units, overhead trolleys and table-cable conveyors, to move products of all shapes, sizes. Consult our agent or write The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio.

Buschman CONVEYORS
Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities
362

▲ For more details circle NED-74 L on enclosed inquiry slip ▲

★★★★★ ★★★★★
IN EVERY FIELD, THERE IS ONE FOREMOST NAME . . . IN SONIC ENERGY, THAT NAME IS BENDIX

WHAT'S ALL THIS TALK ABOUT SONIC ENERGY CLEANING?

Sonic Energy Cleaning is *a practical production tool* that will reduce rejects on many parts and products, lower cleaning costs and improve product performance.

So there's plenty of good reason for all the talk about Bendix® Sonic Energy Cleaning.

Bendix pioneered and has led in development of Sonic Energy Cleaning for industrial applications and so has more Sonic Energy experience. Our Sonic Energy Applications Laboratory has no equal in its ability to provide the most efficient answer for cleaning applications that can use Sonic Energy to advantage. And our line of Sonic Energy Cleaning systems is most complete.

It makes real sense for any manufacturer to utilize the *Bendix* way of investigating his application and verifying any equipment requirements.

FREE, UP-TO-THE-MINUTE REPORT ON SONIC ENERGY CLEANING

Explains in detail the principles and workings of this process. Illustrates, describes and analyzes typical results. Outlines five-step plan to help you determine feasibility of Sonic Energy Cleaning for you. To get your copy, write: PIONEER-CENTRAL DIVISION, THE BENDIX CORPORATION, 2722 HICKORY GROVE ROAD, DAVENPORT, IOWA.

Bendix SONIC ENERGY CLEANING

▲ For more details circle NED-75 L on enclosed inquiry slip ▲

BAD-TASTING (or Smelling) WATER?

INSTALL **STERI-PORE** Here's How To Correct It!

Carbon Element Drinking Water FILTERS

All water to Drinking Fountains, Water Coolers, Coffee and other liquid vending machines—in fact, any place where objectionable taste or odor of water exists—can be easily corrected with these STERI-PORE Activated Carbon Element Filters. Installed on a separate cold water line, they will remove all bad tastes and odors from the water passing through the filter. If you manufacture or use a product where such water-improvement would be desirable, it will be to your advantage to get the Facts now.

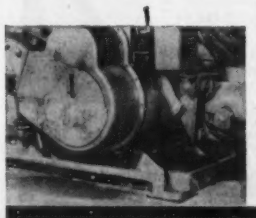
Write for Bulletin 20A or phone Now. Phone: LU 6-8770.

FILTROS INCORPORATED
DEPT. N, EAST ROCHESTER, N. Y.

▲ For more details circle NED-76 L on enclosed inquiry slip ▲

Set up your Machinery on
STANMOUNT
Which of the following benefits will be yours?

- Installations are speedy and economical—no bolting necessary
- Troublesome vibration eliminated
- Plant noise-level lowered
- Plant layout is flexible
- Smoother running equipment even at high speeds



Many concerns have standardized on the Stanmount method of installation for all types of equipment. Stanmount is manufactured in several thicknesses in load-densities of 50, 100 and 250 lbs per square inch. The use of #580 Quick Bond Cement anchors machines to concrete, wood or steel floors with a holding power equal to 100# P.S.I. vertical or shear. Let a trial installation convince you of the working value of Stanmount Pads. Write for complete literature today.

HILMAN EQUIPMENT COMPANY
DEPT. N-30 • SEA GIRT, N. J.

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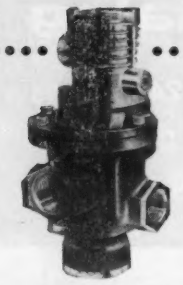
split-second response . . . more work per hour . . .

with **VALVAIR® HI-SPEED INLINE VALVES**



HI-SPEED INLINE with integral pilot, 2 or 3-way, N.O. or N.C., 3/8 to 1¼ in. NPT.

- solenoid coil guaranteed against burn-out for life of valve
- instant-action control • air-cushioned poppet
- multi-million cycle dependability • JIC pilot

Short poppet travel in Valvair's HI-SPEED INLINE provides maximum flow almost instantaneously. This shortens machine cycle time . . . lessens brake and clutch slip . . . provides more accurate cuts on high speed cut-offs . . . decreases set-up time . . . minimizes drift, for safer operation.

For increased production . . . lower costs . . . greater safety . . . specify Valvair HI-SPEED INLINE valves.

Write for free Bulletin HIN, Address: Bellows-Valvair, Akron 9, Ohio, Dept. NED-1160.

8006-3

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

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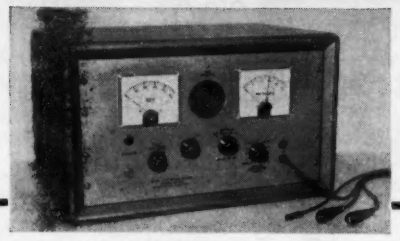
ELECTRICAL INSULATION TESTER FOR AC OR DC TESTING



Checks for
- BREAKDOWNS
- LEAKAGE
- GROUNDS
- RESISTANCE
- POWER FACTOR
- CAPACITY

MODEL 103/105

This Model 103/105 Universal Multirange Tester will check insulation characteristics under ac or dc test conditions on laboratory or production applications.

It provides complete data for analysis or production control. Predetermined limits can be set up, and rejects are signalled by buzzer and lamp.

Instrument is adaptable to automatic or semiautomatic installations and can be remotely controlled. It will also control other equipment.

Range: 0/2100 v ac or dc . . . 0/100/1000/5000 ma . . . 10 ma max short circuit . . . 0/0.005 mfd ac compensation . . . 0.1/400 megohm useful range . . . 115 v ac input

SLAUGHTER CO. PIQUA, OHIO

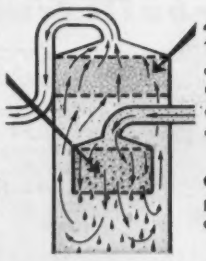
▲ For more details circle NED-79 L on enclosed inquiry slip ▲

ANNOUNCING *King* **COMPRESSED AIR FILTERS**
20 to 200 scfm flow capacity—¼" to 2" pipe size

- **Give EXTRA-CLEAN AIR**
- **Go MONTHS WITHOUT MAINTENANCE**

..thanks to new kind of filtering action. **COALESCENCE** is the secret:

1 WET FILTER BED in Scrubber Cartridge causes fog and mist to COALESCE into large drops that fall into sump. Takes out dirt, water and oil. Down-flow provides self-cleaning. Lasts for months without maintenance.



2 Dry Polisher Cartridge gives final cleaning. Scrubber Cartridge does 98% of the work, so Polisher also lasts for months.

Cartridges are disposable. One size fits all King Filters.

FREE CATALOG gives ALL the facts; lists 60 standard models. Write, wire or phone today for *Catalog 6000*.

KING ENGINEERING CORP.
3223 S. State St. Ann Arbor, Mich.
LIQUID LEVEL GAGES, MANOMETERS, ACCESSORIES—SINCE 1937

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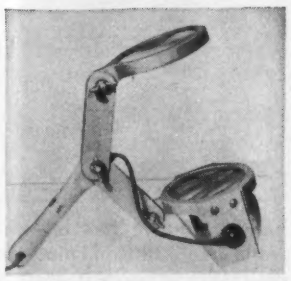
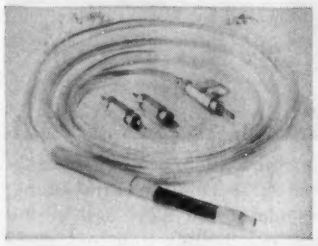
STRAIN DETECTOR
for use with glass and plastic



Detecting strains in laboratory glassware, identifying strain patterns in tempered glass, inspecting glass-to-metal seals, and studying strain patterns in plastic scale models are uses for the Model P5 Polariscope full-color strain detector. Lens distance can be adjusted for specimens of any diameter. Apparatus weighs only 1¾ lb, making it useful as a bench or portable instrument. Power required is 110 v. Price is $65. • **Bethlehem Apparatus Co.**, Front & Depot Streets, Hellertown, Pa.

▲ For more details circle NED-81 L on enclosed inquiry slip ▲

WELDING TORCH
for tungsten inert gas arc welding



Flexible body that is hand adjusted to any angle and can be extended into hard-to-reach recesses is a feature of the Falstrom Controlled Angle torch for tungsten inert gas arc welding. It can be used for aluminum, stainless steel, and other metals. Water-cooled model is rated 180 amp ac-dc, continuous duty, or 300 amp, intermittent duty. Lower and higher rated water-cooled and air-cooled torches will be available. • **Falstrom Co.**, 147 Falstrom Court, Passaic, N. J.

▲ For more details circle NED-82 L on enclosed inquiry slip ▲

SIGHT FEED VALVES
flow rate and view ports improved

Redesigned line of angle, cross, inverted angle, and straight sight feed valves has enlarged orifice or port for high flow rates and large sight ports for good view

of liquid flow. Most models have dual-window sight chambers that swivel to any viewing position. Made in ¼, ⅜, and ½-in. pipe thread sizes, Style SFK valves are principally used on gravity or pressure oiling systems for bearing lubrication. Needle valve regulates liquid flow from full to complete shut-off. Units have excellent flow characteristics with low pressure drop. • **Oil-Rite Corp.**, 2364 Waldo Blvd., Manitowoc, Wis.

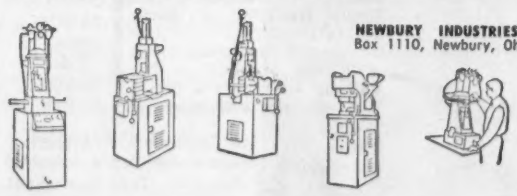
▲ For more details circle NED-83 L on enclosed inquiry slip ▲

Project Engineers:

THIS FREE BOOKLET IS A "MUST" . . .

If your problems involve injection molding of plastic parts up to 1½ oz.

Shows you how MINI-JECTORS® cut major costs. Produce: *QUICKER*—thousands of molded items often made before big press tooling is off design board; *BETTER* — award-winning quality and precision even with molds involving inserts or loose cores; *FOR LESS*—develop and produce molded items at fraction of big press tooling costs. Shows latest methods of developing and producing (up to 1½ oz.) items in *all* thermoplastics, including Nylon. MINI-JECTOR machines from under $1,000 complete. Mold blanks as low as $29.50. *One user saved over $4,000 mold costs alone on one item.*



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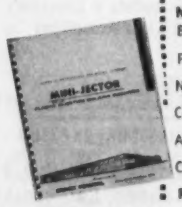

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VACUUM CLEANERS

FOR USE ON YOUR OWN 55 GALLON DRUM

WRITE FOR INFORMATION
HILD FLOOR MACHINE CO. INC. NED-69
1217 W. Washington Blvd., Chicago 7

Manufacturers of Floor Machines and Industrial Vacuum Cleaners Since 1927

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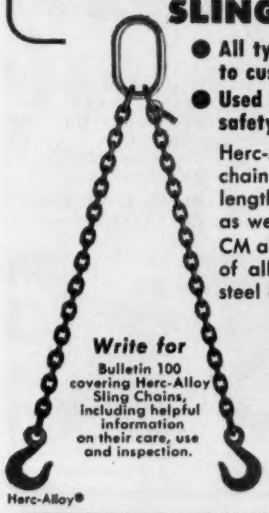
HERC-ALLOY
SLING CHAINS



- All types and sizes assembled to customers' specifications.
- Used throughout industry where safety is paramount.

Herc-Alloy is the original alloy chain. It is available in running lengths and special assemblies as well as slings.

CM also produces welded chain of all types including stainless steel and bronze.

Write for Bulletin 100 covering Herc-Alloy Sling Chains, including helpful information on their care, use and inspection.

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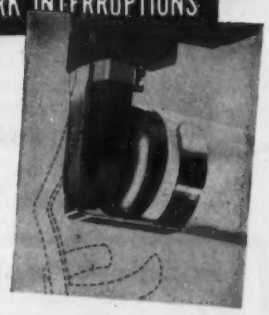
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONTARIO

▲ For more details circle NED-86 L on enclosed inquiry slip ▲

STOP! INJURIES AND WORK INTERRUPTIONS

from falling fluorescent-tube accidents



Fluorescent tubes sometimes fracture. Vibration and shock may release them from fixtures. Wherever fluorescent lighting is installed there is the possibility of physical injury and property damage resulting from falling tubes.

Don't wait for accidents to happen. For a few cents each you can keep tubes in place, prevent falling, insure against poisoning, contamination and spoilage, avoid injuries, work interruptions and loss of time.

Install Den-El fluorescent lamp guards, easily and quickly, with a screw driver. Permanent, positive protection. Stainless steel. Easily sprung aside for relamping or cleaning. Two guards for each lamp.

Types for all fixtures, also tubes in series
For 40W tubes, per C
For 100W tubes, per C

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A DEPENDABLE GUIDE TO SAFETY
SAFETY EQUIPMENT FOR EVERY HAZARD

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TO WIRE
- FULL VISIBILITY
- OPEN TERMINALS
- CAPTIVE SCREW

TO ASSEMBLE
- COMPACT, SEGMENTED CONSTRUCTION
- POSITIVE INTERLOCKING
- AVAILABLE IN 15, 25 AND 50 AMP BLOCKS

TO MODIFY
- SNAP-IN, SNAP-OUT BLOCKS FOR EASY ADDITION OR REMOVAL
- SNAP-IN MARKING STRIP FOR CIRCUIT IDENTIFICATION

TO CHECK OUT
AVAILABLE EQUIPPED WITH TERM-A-FUSE FOR CHECKING OUT FAULTY CIRCUITS IN SECONDS

Available assembled, in kits or in bulk units.
Write for Bulletin 457.

GEMCO ELECTRIC COMPANY
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di-acro PRECISION METALWORKING EQUIPMENT
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1 Hand Operated Model — 3—12 Ton Models — 2—25 Ton Models

BRAKES **BENDERS**

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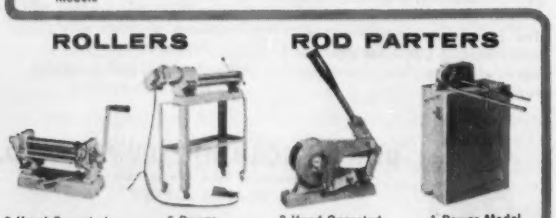
PUNCH PRESSES **SPRING WINDER**

2 Hand Operated Models — 2 Power Models — 1 Turret Model — 1 Hand Operated Model

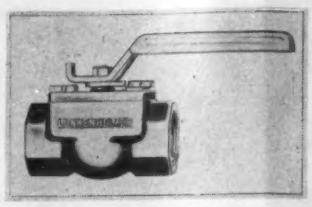
ROLLERS **ROD PARTERS**



8 Hand Operated Models — 6 Power Models — 2 Hand Operated Models — 1 Power Model

▲ For more details circle NED-89 L on enclosed inquiry slip ▲

BALL VALVE
top entry facilitates maintenance



Top entry design of this Fig. 700 ball valve facilitates in-line maintenance. Removing cover exposes the ball which is easily removed by the tool on the specially designed handle. Valve has bronze body, screw ends, and is made in 1/4 to 2-in. pipe sizes. Self-aligning ball rides on Teflon or Buna-N seats, sealing at high or low pressure without springs or bearings. Features include straight-through flow, low friction, quarter-turn operation, and compactness. • **Lunkenheimer Co.**, Beekman Street & Waverly Avenue, Cincinnati 14, Ohio.

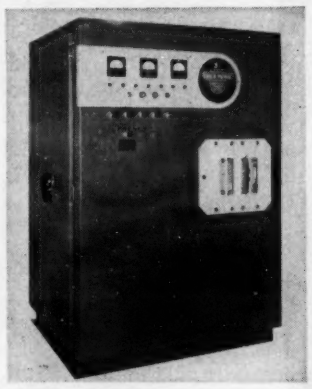
▲ For more details circle NED-90 L on enclosed inquiry slip ▲

ALUMINUM PIPE FITTINGS
for 1/8 to 4-in. diameter pipe

Line of threaded aluminum pipe fittings for 1/8 to 4-in. diameter pipe is suited for systems handling high purity or corrosive fluids, petroleum, and chemicals. Couplings and nipples are made from 6061-T6 aluminum tubing, whereas other fittings are made from B214 cast aluminum alloy. Other applications include stair and guide railings, and tubular constructions in the electrical industry. • **Latrobe Foundry Machine & Supply Co.**, Box 431, Latrobe, Pa.

▲ For more details circle NED-91 L on enclosed inquiry slip ▲

INDUCTION HEATING GENERATOR
produces high and low frequencies



Brazing, annealing, hardening, soldering, and other operations can be performed by the wide range of high or low frequencies afforded by the Ther-Monic 30-kw generator. Turning of the external selector switch allows operation at 250 to 450 kilocycles and 1 to 7 megacycles. Coils and fixtures are mounted in front for connection to outputs; no additional cabinets are required. External grid adjustments are possible on both frequencies. Heat exchangers for water and cabinet cooling are built in, as are meters for various applications, and trouble lights to designate proper operation. • **Induction Heating Corp.**, 181 Wythe Ave., Brooklyn 11, N. Y.

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OHIO GEAR Catalog

246 pages on gears and speed reducers

The new OHIO catalog—246 pages packed with useful engineering data, sizes, ratings and specifications on one of industry's most complete line of gears and speed reducers.
. . . new convenient size . . . clearly indexed . . . spiral bound to lay flat . . . fully illustrated . . . complete and unabridged.

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- Ratings

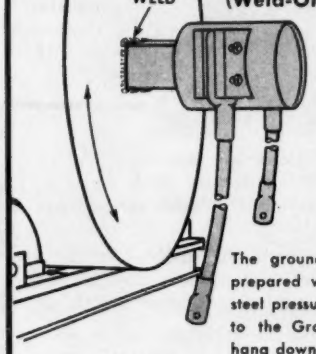
Sprockets
- Engineering Data & Tables

Ohio OHIO GEAR CO.
1408 East 179th Street • Cleveland 10, Ohio

▲ For more details circle NED-94 L on enclosed inquiry slip ▲

Having Trouble Grounding Vessels on Turning Rolls?

Use an
ARONSON W·O·R·M GROUND
(Weld-On-Rotating Mercury)



There is only one good way to conduct ground current from a vessel on turning rolls and that is to make a good connection of the ground cable directly to the vessel.

The ground cable(s) have the end prepared with a copper sleeve and steel pressure plate which is secured to the Ground Blocks. The cable(s) hang down making a pendulum which assures the housing staying stationary while the stud member rotates with the vessel. Extremely rugged and perfectly engineered to conduct 1100 amps continuous-duty, full-flow current, steady and unwavering.

ARONSON MACHINE CO., INC.
ARCADE, NEW YORK

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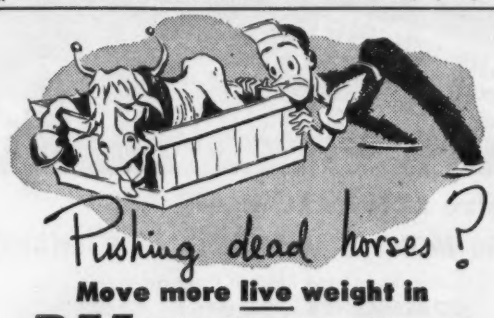

Pushing dead horses?

Move more live weight in
BAL-built trucks of

AEROFIBRE

Samson Box Truck — One of Bal's many types of trucks featuring hard vulcanized Aerofibre...the material that is 50% lighter than aluminum, yet wears like armor plate.

Constructed by Bal's own craftsmen in any size, the Samson Box Truck has thick steel reinforcing hardware and no-bulge body bands, compound steel top-rail, solid hardwood bottom. It is indestructible as a tank but rolls like a baby buggy.

Bal Also Builds Trucks In Open, Drop Front or Shelf Designs.
Write for complete catalog

SINCE 1898 william BAL corporation 947-49 Newark Ave. Elizabeth, N. J.

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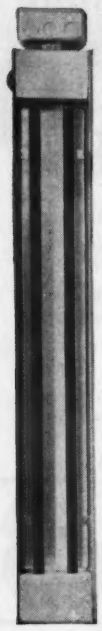
NEW HEAT SOURCE



glass radiant heaters are up to 90% efficient

VYCOR® glass tubular heaters emit a kind of radiant energy—called "far infrared"—that is up to 90% efficient for heating, drying, curing or baking.

You get 9/10 kw of work done for every kw of input.

Up to 23 watts of energy per square inch of work surface.

Triple-reflector design focuses heat directly on your product.

Units come with all hardware—just wire and you're set to heat.

NEW BULLETIN on Corning radiant heaters. Complete specs and instructions on set-ups and operation. Write to Plant Equipment Sales Department, 56 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

▲ For more details circle NED-97 L on enclosed inquiry slip ▲

Wherever threaded connections and screwed fittings are subject to prolonged exposure to extreme temperatures—up to 1200°F.—a little Thred-Gard saves a lot on maintenance costs: time, labor, thread stripping and replacement of fittings.

Thred-Gard eliminates seizing and galling, protects threaded surfaces, reduces wrench torque and allows plugs and bolts to be re-used many times over. It permits fittings to be drawn to a greater degree of tightness, yet provides a permanent lubricant that assists dis-assembly.

Order a trial can today.
Request free sample and literature.

CRANE PACKING COMPANY
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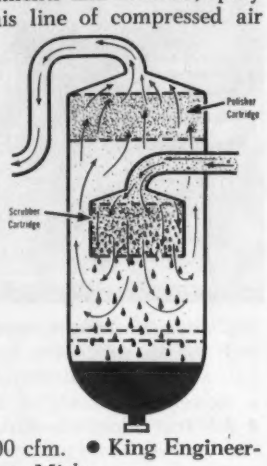
▲ For more details circle NED-98 L on enclosed inquiry slip ▲

COMPRESSED AIR FILTERS
20 to 200 cfm maximum flow rates

Almost all entrained dirt, oil, and water are removed from air for pneumatic instruments and controls, spray guns, and process use by this line of compressed air filters. A wet filter bed in a scrubber cartridge (see diagram) cleans the air of dust and dirt particles down to 2 microns or less in size. Mist and fog particles of oil and water coalesce into larger drops as they pass through the bed and fall into a sump. Air leaving the scrubber passes out through a dry bed polisher cartridge at the top of the filter. Both cartridges are disposable. Filters are made with pipe sizes from 1/4 to 2 in. and minimum flow rates from 20 to 200 cfm. ● King Engineering Corp., Box 735, Ann Arbor, Mich.



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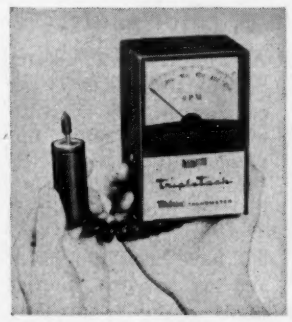
PORTABLE CONVEYOR
moves goods from floor to floor

Maneuverability, light weight, and low initial cost make the Series S Versa-Veyor portable conveyor suitable for a wide variety of handling operations. Made of aluminum, it can be used over stairways for floor-to-floor handling, or as a portable unit with a two-wheel undercarriage. It speeds transfer of case goods from truck to storage or storage to truck. Another use is as a power booster in gravity conveyor lines. Conveyor is made in standard 9, 11, 13, and 15-ft lengths. ● Versa Corp., Box 152, Mt. Sterling, Ohio.

▲ For more details circle NED-101 L on enclosed inquiry slip ▲

HAND TACHOMETER
has sealed meter movement



Accuracy within ±1 per cent of full scale is reported for the Series 27 Tripletach hand tachometer. The small, lightweight unit has a metal case, sealed meter movement, printed circuitry, speed pick-up, retractable cord, and storage space for shaft tips and other accessories. Type A measures from 200 to 10,000 rpm; Type B from 100 to 5000 rpm; and Type C from 20 to 1000 rpm. Three scales changed by thumb switch permit fine readings within these ranges. Accessories include an adapter for extending ranges, an adapter for use in close quarters, and a disc for direct measurement of surface speeds. ● Metron Instrument Co., 432 Lincoln St., Denver 3, Colo.

▲ For more details circle NED-102 L on enclosed inquiry slip ▲

NEW STRAINER
QUICK DELIVERY
NEW LOW COST

This new "industrial-liquids" strainer is designed to give *SK quality* at *low cost*. It is made and stocked (for quick delivery) in 2, 2½, 3, 4, and 6 inch sizes, all flanged. Offers low pressure drop.

The Fig. 941 has a cast iron body and cover, ductile iron clamp, stainless steel basket. Six inch size has a bolted cover. Baskets have ¼ inch diameter holes; free pipe area is 5 to 1 in all sizes. Available with mesh liners for finer straining—stainless steel case then provided with ¼ inch holes.

Requests for quotations and literature handled promptly. For quick action, write or call SK direct.

Schutte and Koerting COMPANY
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JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

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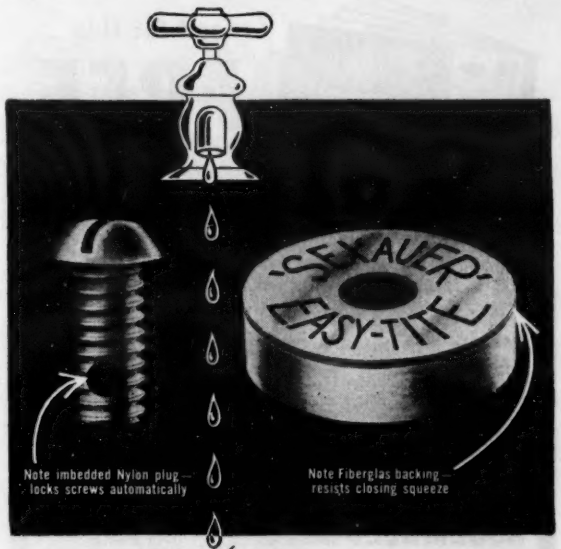

New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

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WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

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on corrugated cartons, metal, wood, paper, concrete or any other surface.

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2077 East 65th Street • Cleveland 3, Ohio

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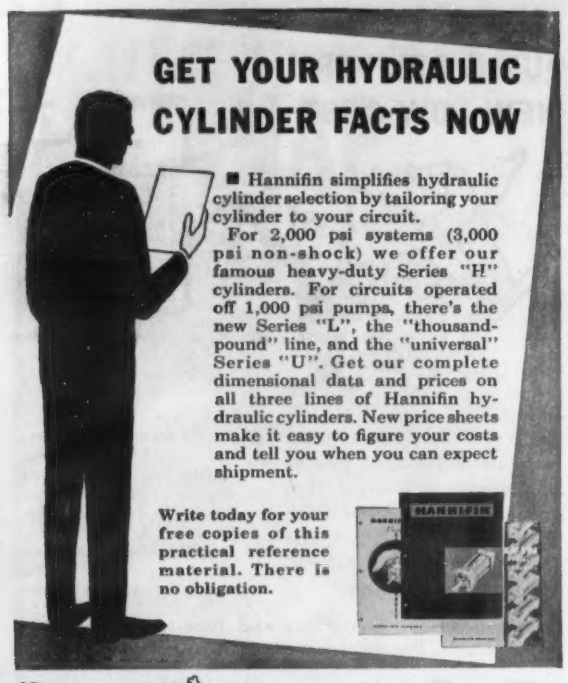
GET YOUR HYDRAULIC CYLINDER FACTS NOW



■ Hannifin simplifies hydraulic cylinder selection by tailoring your cylinder to your circuit.

For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H" cylinders. For circuits operated off 1,000 psi pumps, there's the new Series "L", the "thousand-pound" line, and the "universal" Series "U". Get our complete dimensional data and prices on all three lines of Hannifin hydraulic cylinders. New price sheets make it easy to figure your costs and tell you when you can expect shipment.

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PNEUMATIC AND HYDRAULIC SYSTEM COMPONENTS

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- ALMOST 100% SAFETY AGAINST GALLING AND SEIZING WITH ALL BEARING METAL COMBINATIONS
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- REDUCES WEAR-IN TIME AND DAMAGE IN NEW OR REBUILT MACHINERY
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Write for your free sample of MOLYKOTE G LUBRICANT today. We will also send you a copy of our new Bulletin 126 which gives complete details. THE ALPHA MOLYKOTE CORPORATION, 65 Harvard Avenue, Stamford, Conn. Phone Fireside 8-3724. Plants in Stamford, Conn., Munich, Germany and Strasbourg, France.

NED-11
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CITY ZONE STATE

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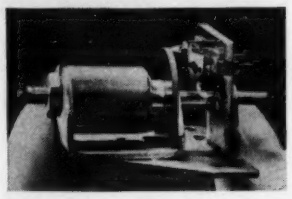
PORTABLE VACUUM CLEANER straps on back, or rides on wheels

Lightweight Papoose three-way portable vacuum cleaner features a 1 hp motor, permanent cloth filter bag, 1/3-bu capacity, and a dual turbine vacuum system. It may be strapped on the user's back for cleaning overhead pipes and fixtures, or when used in confined areas; snapped on a one-piece wheel attachment for close following when cleaning carpets or floors; or mounted on a wall for use at a work bench or assembly table. Unit has a high impact Royalite housing and converts to a blower by exchanging air intake and exhaust plates. • Advance Floor Machine Co., Spring Park, Minn.

▲ For more details circle NED-108 L on enclosed inquiry slip ▲

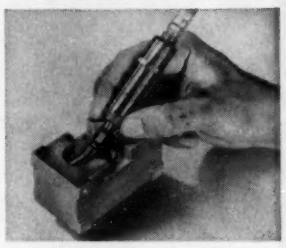
TIME DELAY SWITCH adjustable from 1 sec to over 1 min



Delay in remote control of equipment is possible with the Model TDS-10 time delay switch, actuated by an air dash pot. Adjustable from 1 sec to over 1 min, the unit is applicable to held-open and held-closed circuits. Ambient temperature range of −40 to 300° F in the current model can be extended by making minor revisions in switch components. Rating is 5 amp at 115 v. • Park Products Co., 4901 Perkins Ave., Cleveland 3, Ohio.

▲ For more details circle NED-109 L on enclosed inquiry slip ▲

MINIATURE GRINDER has larger bearings, rotor shaft



A 25 per cent greater bearing size and a 33 per cent larger rotor shaft diameter are among improvements made in the 14G-800 Mini-Grinder air tool for precise grinding. The 1/8 and 3/32-in. collets have been simplified, and an exhaust muffler built in. Despite these changes, tool still weighs only 5 oz and measures 3 7/8 in. long by 13/16 in. diameter. Ring throttle infinitely controls speed of the 0 to 50,000 rpm air motor. Tool is rated for 1/2-in. mounted points and operates on 90-100 psi through 1/8 in. ID hose. It is available with various nose pieces and collet wrenches, 5-ft hose, dressing stone, tool box, and filter-lubricator, as desired. • Buckeye Tools Corp., 5003 Springboro Pike, Dayton 1, Ohio.

▲ For more details circle NED-110 L on enclosed inquiry slip ▲

CLEVELAND SILENT VIBRATOR REDESIGNED

Cleveland Vibrator's RC-50 Quiet Electric Bin Vibrator has been redesigned, making it more compact and more powerful.

The new RC-50 develops an impact force of 2250 pounds and weighs only 84 pounds. It is used to vibrate bins, expediting the flow and handling of bulk materials such as sand, flour and concrete.

The RC-50 operates on the rotating eccentric weight principal and is very quiet. Two cam like weights are rotated at 3600 rpm. to develop the vibrational force. Adjustable weights permit varying the vibration impact between 750 and 2250 pounds.

Cleveland's new RC-50 is available for operation on 110, 220, 440 or 550 volts. Rotary electric vibrators require much less maintenance than electric reciprocating vibrators. In fact, the RC-50 requires no more maintenance than a standard a-c. motor.

For complete details, write

THE CLEVELAND VIBRATOR COMPANY
11K-2744 Clinton Avenue • Cleveland 13, Ohio

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Maximum sizes up to 1 3/4", 1/2 oz.

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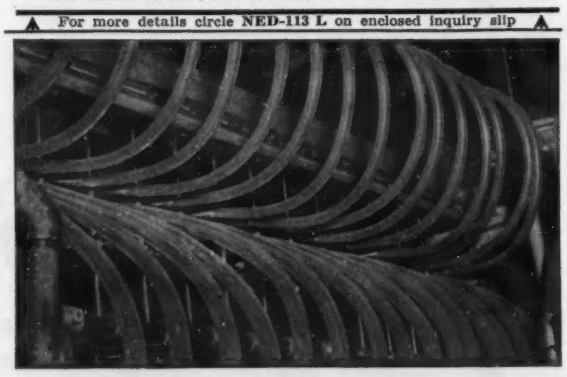

TYGON® flexible plastic TUBING

- *Virtually Unlimited Applications*
- *Quick and Easy to Set-Up*

Tygon Tubing offers a unique combination of advantages. Its glass-like clarity permits visual inspection and control of flow. It resists oils, greases and chemicals. Because of its extreme flexibility, Tygon Tubing can be installed in minutes. Its hard, smooth bore is easily flushed clean. Physically tough and abrasion-resistant, Tygon Tubing provides long, trouble-free service life.

Tygon Tubings are available to handle full vacuums, or braid-reinforced to withstand pressures up to 300 psi. Over 65 sizes are available up to 4" I.D.

440F-1

Write for free Bulletin T-100...today!

U. S. STONEWARE
AKRON 9, OHIO

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STEEL PIPE COUPLING
DRESSER® STYLE 38

Permanent joints for plain end steel or cast iron pipe... with flexibility. Deflections up to 6° are absorbed by resilient Dresser gaskets . . . joint stays bottle tight. Choice of gasket types for various line contents. Style 38 couplings absorb pipe movement, expansion, vibration and are simple to dismantle for maintenance or relocation. Only a wrench is needed. Sizes from ⅜" to 72" and larger. Write today, or, see your nearby Dresser Distributor.

dmd DRESSER MANUFACTURING DIVISION BRADFORD, PENNSYLVANIA

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KUPL+LOK T.M. FOR GROOVED END PIPE
DRESSER STYLE 98

For working pressures to 1,000 psi. Extra rugged for heavy duty service. Single, one piece grooved gasket provides a pressure pack seal that stays tight for life. Sizes from 2 to 8 inches. ■ Rugged KUPL+LOK couplings meet ASTM specifications. Both couplings and fittings—ells, reducers and tees—are available from your nearby Dresser Distributor. Call him today, or write:

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BRANCH CONNECTION SERVICE SADDLE
DRESSER STYLE 91

Speedy, economical way to take off from main lines. Fixed gasket under the saddle seals connection bottle-tight. Only one wrench is needed. Broad bands grip pipe firmly; prevent cutting or crushing. Single or double strap types. For steel, cast iron, or asbestos cement lines from 1¼" OD to 15" OD. Plastic dipped or galvanized. Write today, or, see your nearby Dresser Distributor.

dmd DRESSER MANUFACTURING DIVISION BRADFORD, PENNSYLVANIA

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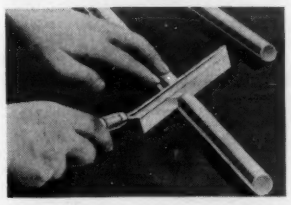
LUMINESCENT SWITCH PLATE provides guide to light switch

This Nite-Lite switch plate contains a Panelescent lamp that produces enough light to be visible through the white plastic cover. When switch is turned off, the Panelescent light is activated, and when switch is turned on, the plate is extinguished. Plate operates on the electroluminescent principle and glows with a soft emerald light over its entire surface to guide a person through dark rooms or stairways to the light switch. It replaces any conventional single switch plate and retails for $2.49. ● **Sylvania Electric Products Inc.**, 730 Third Ave., New York 17, N. Y.

▲ For more details circle NED-118 L on enclosed inquiry slip ▲

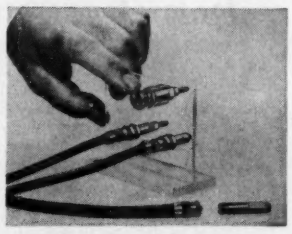
RAZOR SAW cuts, trims metal, wood, and plastic



Tempered high carbon steel saw blades, available in ¾ and 1-in. widths, are used in this razor saw for accurate cross cutting, trimming, and notching of metal, wood, and plastic. A twist of the locking chuck releases the blade for replacement in the shaped-to-fit-the-hand plastic handle. Over-all length is 9½ in. No. 53 razor saw with blades of two widths sells for $1.75. ● **X-acto, Inc.**, Handicraft Tools Div., 48-41 Van Dam St., Long Island City 1, N. Y.

▲ For more details circle NED-119 L on enclosed inquiry slip ▲

PANEL AIR CONNECTORS allow quick changes in air circuits



Two new styles of miniature panel-mounting Quick Connects make possible quick changes in air circuitry. In the photo at the top center, one of several miniature air valves available in 2, 3, and 4-way styles for pushbutton or cam follower operation is pointed out. At middle left is Model MQC-3 Quick Connect with female 10-32 port at rear for metal or flexible tube fittings. The MQC-2 at middle right is provided with female 10-32 thread at rear. When front portion is disconnected, valve in rear stops air flow. At bottom right is the MQC-1 with 10-32 male thread for clamp mounting or connection with Clippard miniature 12-port air manifold MAN-12. ● **Clippard Instrument Laboratory**, 7390 Colerain Rd., Cincinnati 39, Ohio.

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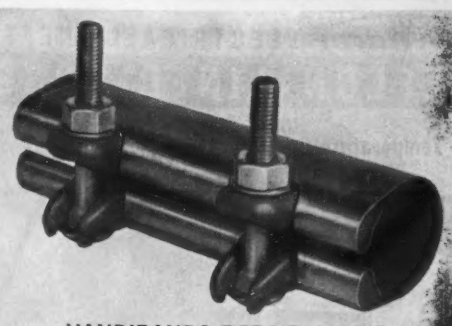

HANDIBAND® REPAIR CLAMP
DRESSER STYLE 118

For permanent repair of leaks or holes in steel pipe. Band is strong stainless steel. Special rubber compound gasket completely seals leaks...resists all common line contents including condensates, aliphatic and aromatic hydrocarbons. A wrench is all that's needed. For pipe sizes ½" through 8"; HANDIBAND lengths: 3", 6", 9", 12". Write today, or, see your nearby Dresser Distributor.

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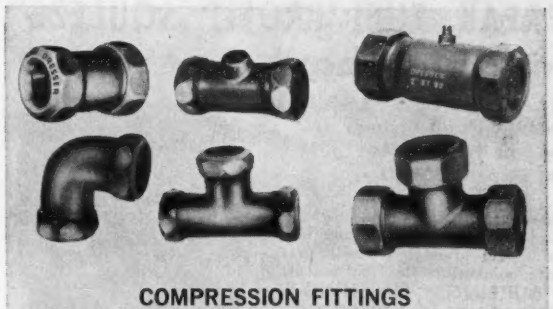

COMPRESSION FITTINGS
DRESSER STYLES 65 AND 90

Protect motors, pumps, compressors, engines, meters, from vibration with these "30-second" leakproof pipe fittings. Simply stab in pipe ends and tighten end nuts. Only a wrench is needed. Eliminates exact pipe fitting or alignment problems. For equipment hook-ups, underground, or surface piping. Widest variety of couplings, elbows, tees, adapters; available from ⅜" to 2"; for steel pipe. Write today, or, see your nearby Dresser Distributor.

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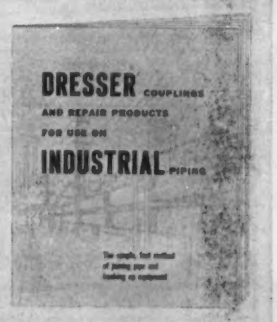
FREE... New 16-page product bulletin will be sent to you via return mail. Contains complete "how to" information on compression and bolted couplings, sleeves, clamps, and fittings. Also, photos of typical plant and process piping where Dresser products make up permanent, yet low cost piping systems. Clip coupon today—or—see your nearby Dresser Distributor.



DRESSER MANUFACTURING DIVISION, 610 FISHER AVENUE, BRADFORD, PENNSYLVANIA

Gentlemen: Please send me Catalog 760, "Dresser Couplings and Repair Products For Use On Industrial Piping".

NAME _____ COMPANY _____

STREET _____ ZONE _____ STATE _____

TITLE _____ I would particularly like more information on _____

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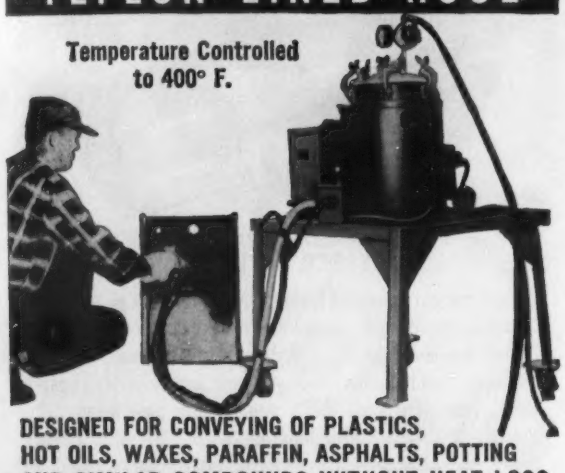
Sta-Warm ELECTRICALLY HEATED TEFLON LINED HOSE



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Sta-Warm engineers and builds a complete line of flexible, electrically heated hoses for use with heated melting tanks. Rubber and all-metallic braided also available.

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130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

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BREAK THE 'PROFIT SQUEEZE' with Brightboy!

Use these NEW SLANTS to:
★ Save your time
★ cut your costs
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In multi-use Brightboy, abrasive and rubber function simultaneously to produce a finish that often constitutes the final polish:
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frequently in one operation.

The revolutionary new concept of abrasive applications for working all metals, wood, glass, laminated materials, some plastics. JOB-MATCHED STOCK TEXTURES, extra fine to extra coarse, in soft, semi-firm, firm and tough rubber binders. *The only complete, comprehensive stock line of soft rubber bonded abrasives.*

THE NEW BRIGHTBOY CATALOG
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BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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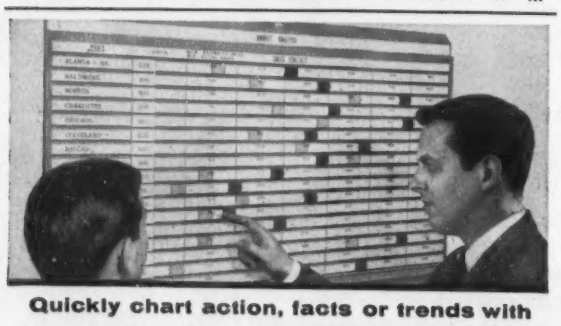
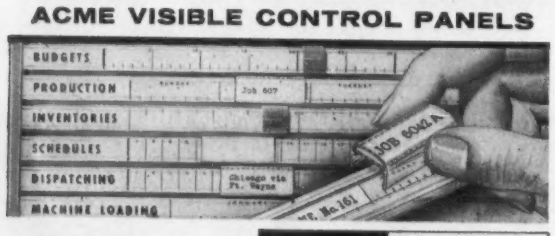


Quickly chart action, facts or trends with ACME VISIBLE CONTROL PANELS



Acme Control Panels adapt to your exact needs: Unlimited charting possibilities. Transparent colored signals flag due dates, reorder levels, quotas, goals. Signals slide smoothly . . . override or by-pass each other.

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Please send colorful booklet on new Acme Visible Visual Control Panels and their many uses. I am interested in ____ _____ type of record.
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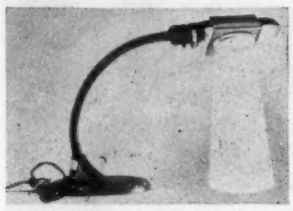
LOCKERS & CABINETS reinforced for rough usage

Frame of these industrial lockers and storage cabinets consists of 12-gage cold-rolled steel upright angles and 14-gage steel cross angles. Protection against rough usage is provided by cross angles at top, bottom, and between doors in double, triple, and multitier frames to which locker tops, bottoms, and interbottoms are fastened. Units have inverted louvers, replaceable riveted hinges, and vandalproof handles. • Worley & Co., Dept. E, 802 W. Whittier Blvd., Whittier, Calif.

▲ For more details circle NED-127 L on enclosed inquiry slip ▲

ILLUMINATOR spot lens concentrates light



Internally one-half silvered, semifrosted tubular 40-w bulb is used in the Edscorp Reflect-All illuminator to provide light for inspection, miscroscope illumination, close-up work, tool and die work, and other uses. A removable spot lens further concentrates light when needed. Unit has a brown finished metal base, 12-in. adjustable gooseneck, and 6-ft cord. Complete unit with bulb is $9.95. • Edmund Scientific Co., 180 E. Gloucester Pike, Barrington, N. J.

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LIFT TRUCKS for low temperature, corrosive use

Corrosionproofing of exposed surfaces, baffling of controls, and chrome plating are features of DTL Series of lift trucks which adapt them for quick freeze operations, or for use where corrosive materials and excessive amounts of water occur. The electric trucks are made in capacities up to 4000 lb and have a small turning radius. Unitized hydraulic and drive packages are easily replaced and serviced. Power is sufficient for heavy dock and ramp work. • Heifred Corp., Church & Elm Streets, Willoughby, Ohio.

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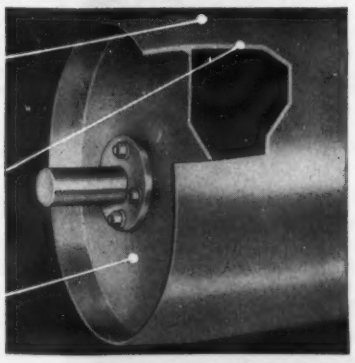
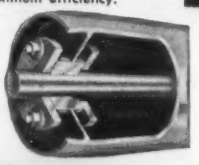
NEW CURVE CROWN® BY STEPHENS-ADAMSON WELDED ALL-STEEL PULLEYS

***CURVE CROWN DESIGN**
Accurately formed Curve Crown on rim outer ends eliminates belt stretch and wear . . . increases belt training effect more than 100%.

STURDY RIM CONSTRUCTION
Absolutely round one piece pulley rims formed under hydrostatic pressure. Seam machine-welded inside and out insures 100% weld penetration.

ACCURATE END PLATE ASSEMBLY
End plates O.D. and I.D. machined to insure concentricity between bore and outer rim. Pressed fit . . . submerged arc welding for maximum efficiency.





FEATURING "SQUEEZELOCK" HUB DESIGN
Revolutionary "Squeezelock" Hub design provides gripping power for full torque transmission without keyways plus eliminating distorting loads against pulley end plates.

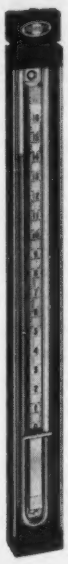
*PATENT APPLIED FOR

S-A

WRITE FOR BULLETIN 558
STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

▲ For more details circle NED-130 L on enclosed inquiry slip ▲

Sliding Scale on New Trimount U-Tube Manometer provides faster, more accurate readings



Sliding scale provides single, accurate read-out. Inherent accuracy of U-tube manometers improved by eliminating two separate readings, and resulting mathematical computation.

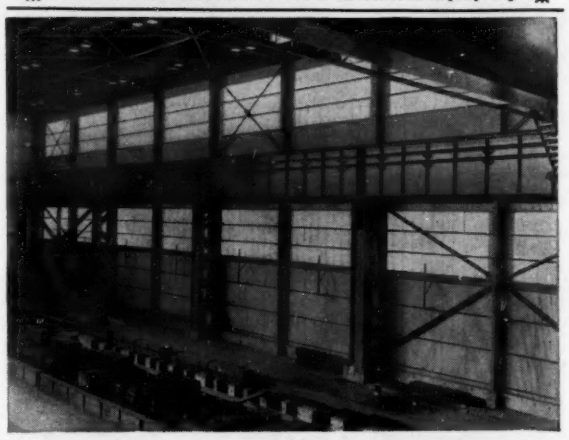
IMPORTANT DESIGN IMPROVEMENTS
- Housings of extruded aluminum—satin-smooth with beautiful gold anodized finish.
- Hard coat anodizing and glass enclosure available for exposed applications.
- 3-way valve allows instrument to be by-passed without disturbing connections, when operating pressures exceed range of instrument.

Check the yellow pages for your local General Controls factory branch office or Trimount representative.

Manufacturers of Manometers, Electronic Level Indicators/Controllers and Hydraulic Remote Control Systems

TRIMOUNT INSTRUMENT DIVISION
GENERAL CONTROLS CO.
5080 McCormick Boulevard, Skokie, Illinois

▲ For more details circle NED-131 L on enclosed inquiry slip ▲



Lowest maintenance cuts costs for USS United States Steel

Strong, translucent Structoglas fiberglass plastic windows are fastened directly to the steel walls of U. S. Steel's new vertical furnace building. The modern, shatterproof windows admit an abundance of filtered light. They're resistant to impact, vibration, vandalism—virtually eliminate maintenance cost. Want better daylighting with savings? Glaze *once and for all* with Structoglas.

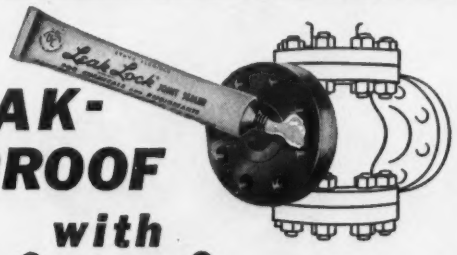
Write for detailed literature

GUARANTEED FOR 3 YEARS against dents, peeling, surface chipping and mildew under conditions specified

structoglas®

Structoglas Inc., Dept. 1106, Cleveland 20, Ohio

▲ For more details circle NED-132 L on enclosed inquiry slip ▲



LEAK-PROOF with Leak Lock®

SPECIFIED IN HUNDREDS OF APPLICATIONS... WORKS WHERE OTHER COMPOUNDS FAIL!

Don't take chances—seal all joints, flanged or threaded with Leak Lock—won't contaminate—contains no lead—withstands solvent action—*excellent adhesion.*

Leak Lock won't freeze joints or heat spontaneously—remains unaffected by shock or vibration. Keeps mating surfaces corrosion free.

Sold in 4-oz. applicator cans, 1⅞ oz. squeeze tubes—pint and 10-lb. containers. Write today for: ***FREE SAMPLE TUBE***

UL Listed by Underwriters' Laboratories for gas, oil, propane and butane equipment.

HIGHSIDE CHEMICALS INCORPORATED
14 Colfax Avenue • Clifton, N. J.

▲ For more details circle NED-133 L on enclosed inquiry slip ▲

What size is a quality fastener?

Here are two ELASTIC STOP® nuts. Each has the familiar red locking collar.* Each is self-locking, vibration proof and reusable. Both stop nuts will maintain an accurate adjustment anywhere on a bolt . . . each prevents liquid seepage along bolt threads and protects against thread corrosion. Finally, each has an unmatched record for quality, both in manufacture and performance.

But . . . one measures 1/10" across the flats; the other, 4". Between these two there are more than 530 different hex nuts in the ESNA line. Look to ESNA for a *standard* self-locking fastener to fit your *special* needs. Write Dept. S2-1137.

*The red locking collar is a Registered Trade Mark of ESNA

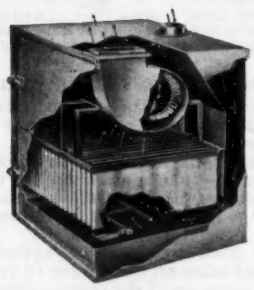
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

▲ For more details circle NED-134 L on enclosed inquiry slip ▲

TORIT DUST COLLECTORS

keep plants clean — lessen employee grievances — save valuable dusts

Torit Dust Collectors keep plants clean . . . an important factor in protecting employee health and morale—and in lowering absenteeism and employee grievances. Economical, too, these units are portable. They cost a fraction of central built-ins and are not limited to certain areas. They save heat by recirculating clean, filtered air. And, as in tungsten carbide manufacturing or diamond grinding operations, they pay for themselves in days with the valuable dusts they recover.



Torit Cabinet Cloth-Filter Model. High efficiency collection of all types of dust. Particles are trapped on fine-woven cloth filters—99%+ efficiency (by weight). Clean filtered air is drawn past the motor and blower to keep it cool.

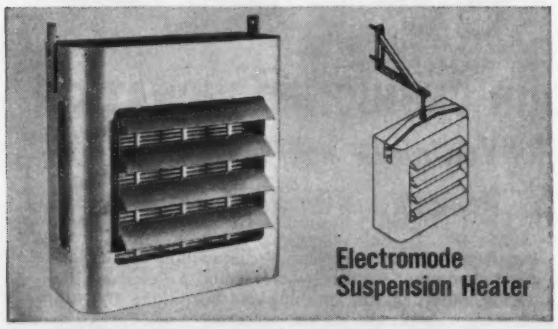
Self contained, portable steel cabinets. Removable doors allow ready access to filters, motors, and blowers. Filters are chemically treated for spark resistance and sealed against leakage. These compact units give maximum filter area in smallest possible space. Capacities range up to 2100 cubic feet per minute. Larger units are built on special order. Prices start at $230.

**For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 229*

TORIT MANUFACTURING CO.
1133 Rankin Street • St. Paul 16, Minnesota

▲ For more details circle NED-135 L on enclosed inquiry slip ▲

Safe . . . Compact Electric Heater Installs Anywhere



- Install easily, for use as spot or primary heater, anywhere you can find an electric outlet.
- No plumbing or ductwork necessary.
- Compact design, adjustable louvers.
- Exclusive cast-aluminum Safety Grid.
- Complete range of capacities, from 5,122 to 153,675 BTU.
- Available in 120, 208, 240, or 480 volts.

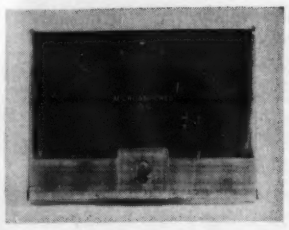
For specifications, write for our 20-page catalog.

Electromode

Dept. NE-110, 570 Culver Road, Rochester 3, New York

▲ For more details circle NED-136 L on enclosed inquiry slip ▲

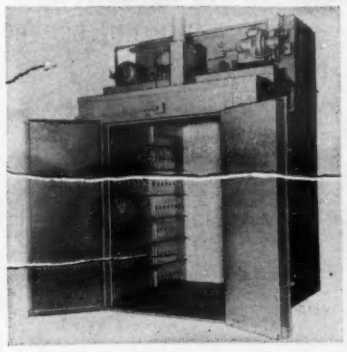
PLASTIC FRONT METER enhances panel appearance



Model 86H acrylic plastic front meter imparts a distinctive appearance to modern instrument panels. The clear view meter has a wide angle extended scale for maximum readability. Available in common milliammeter, ammeter, and voltmeter ranges, the meter is accurate to 1 per cent of scale. It features Taut Band Suspension which eliminates friction. • **Hickok Electrical Instrument Co.**, 10547 Dupont Ave., Cleveland 8, Ohio.

▲ For more details circle NED-137 L on enclosed inquiry slip ▲

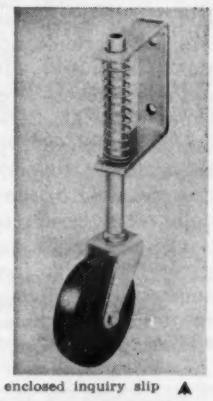
PRODUCTION OVENS assembled from stock components



Batch type production ovens, assembled from stock components, are available either assembled or knocked down and utilize steam, gas, or electric heat. Ovens can be used for baking finishes, preheating, drying, and similar work not in continuous processing. Loading is by means of stationary racks, trays, trucks, or hand-operated monorail conveyors. Ovens have insulated panel construction, double doors, and circulating fan for uniform heat distribution. An insulated floor is available. Controls are mounted, piping is completed to one line for easy connection, and electrical wiring is connected. • **DeVilbiss Co.**, DeVilbiss Metal Fabricators Div., 300 Phillips Ave., Toledo 1, Ohio.

▲ For more details circle NED-138 L on enclosed inquiry slip ▲

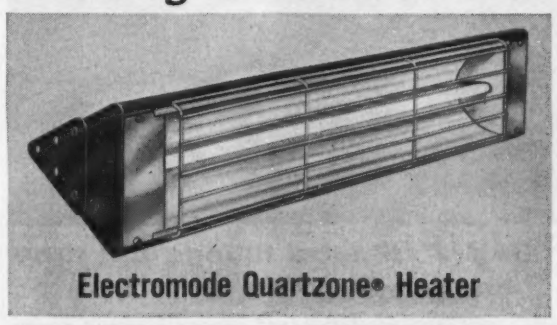
SPRING-MOUNTED CASTER for ladder, platform, truck use



Rubber or steel wheels on the LC 43 spring-mounted caster suit it for use on any type of floor. Ladders, steps, or platforms are made portable with the casters which are also applicable to light duty trucks and carts. Mounting the stem attachment to either the inside or outside of the equipment permits 360-degree swiveling action. Standard finish is electroplated cadmium which protects against corrosion. • **Payson-Harris & Reed, Inc.**, 2916 W. Jackson Blvd., Chicago 12, Ill.

▲ For more details circle NED-139 L on enclosed inquiry slip ▲

Now . . . Spot Electric Heating Indoors or Out



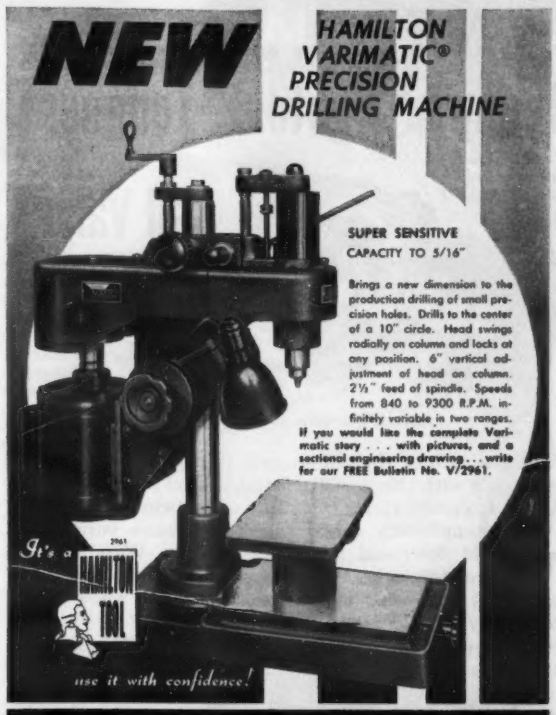
- Infrared electric heating thoroughly covers selected area, indoors or out—warms people and objects, not the air. For watchmen, dock workers, etc.
- Quartz tube, even at red heat, withstands shock of rain, snow.
- Efficient aluminum reflector can be readily removed for cleaning.
- Select from 1000, 1500, 2000, 3000 or 4000 watts.
- Available in 120, 208, 240 or 480 volts.

For more information, write:

Electromode

Dept. NE-110, 570 Culver Road, Rochester 3, New York

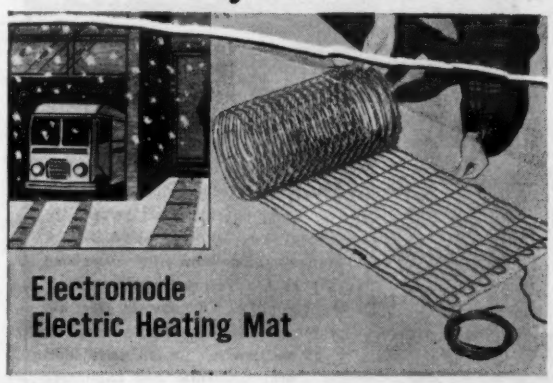
▲ For more details circle NED-140 L on enclosed inquiry slip ▲



THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

▲ For more details circle NED-141 L on enclosed inquiry slip ▲

New . . . Heating Mat That Melts Away Snow and Ice



- Installs easily beneath concrete surface of driveways, walks, docks, steps, etc., for quick, labor-free snow removal.
- Waterproof, securely-anchored connections.
- 18 inches wide, in lengths of 6, 10, 20 or 40 feet.
- Choice of 208 or 230 volts.

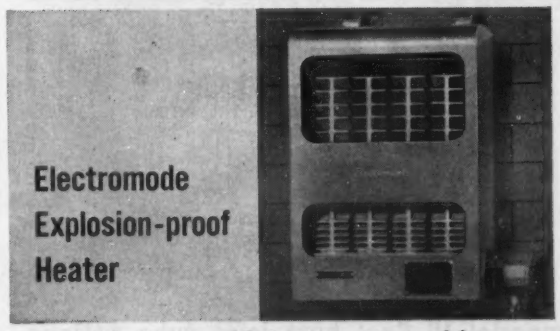
For more information, write:

Electromode

Dept. NE-110, 570 Culver Road, Rochester 3, New York

▲ For more details circle NED-142 L on enclosed inquiry slip ▲

Safe . . . Electric Heating for Hazardous Locations



- Underwriters' Laboratory approved for:
  1. Outputs of 3,413 to 20,490 BTU where atmospheres contain gasoline, naphtha, benzol, alcohol, natural gas, acetone, lacquer.
  2. Output of 1,706 BTU (panel heater) where ethyl ether vapors are present.
- Comfortable, even-flowing heat.
- Exclusive cast-aluminum Safety Grid.
- Available in 120, 208, 240 or 480 volts.

For more information, write:

Electromode

Dept. NE-110, 570 Culver Road, Rochester 3, New York

▲ For more details circle NED-143 L on enclosed inquiry slip ▲

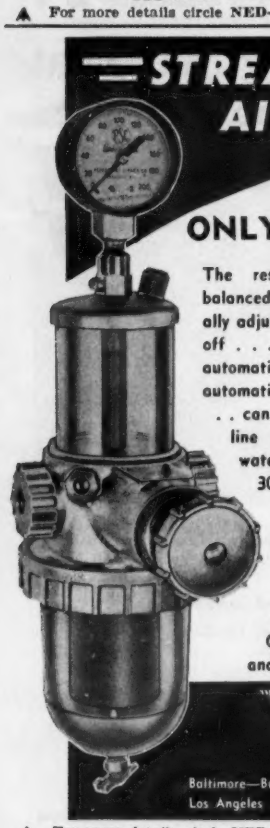
NEW...
Today's "Tightest" Toughest Ball Valve!

You get *positive* shut-off as well as maximum corrosion resistance with this new 316 stainless steel Rockwood Ball Valve. Exclusive spring rings back up its twin Teflon* seats . . . automatically compensate for pressure variations, wear, cold flow, and temperature effects. With flow in either direction, at any pressure, seats always hug the ball. Only ball valve with integrally cast flanges or screw ends, too. They *stay* leakproof. For use from −65°F to +350°F. Easily modified for cryogenics. Holds tight under vacuum. Handles air, alcohols, fuel and inert gases, water glass and many other fluids. Sizes ⅜" thru 2". 4 Models. Write for details. *DuPont Reg. T. M.

ROCKWOOD SPRINKLER DIVISION
of The Gamewell Company • A Subsidiary of E.W. Bliss Company
888 Harlow Street, Worcester 5, Mass.

For more details circle NED-187 L on enclosed inquiry slip

STREAMLINED AIR CONTROL



ONLY 2 Settings Connections

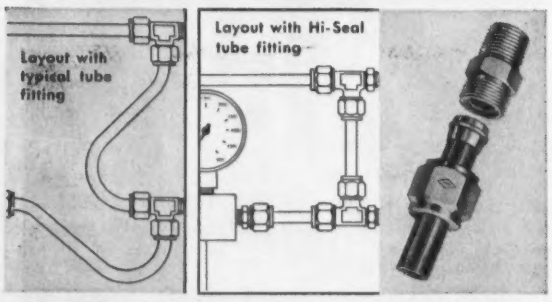
The rest is automatic. Self-cleaning balanced piston REGULATOR automatically adjusts when tools are added or taken off . . . acts as a shut-off valve . . . automatically bleeds off. LUBRICATOR automatically proportions oil to air volume . . can be filled without turning off air line . . . FILTER removes free oil, water, and solid particles down to 30 microns . . . drain valve blow off . . . Filter and Lubricator have visual controls.

To get simplified and positive protection for tools, instruments, etc., standardize on PSC Air Controls. Stocked in ¼", ⅜", ½", and ¾" NPT. Write for Bulletin 80.

"WHERE Good Connections COUNT"
PERFECTING SERVICE COMPANY
332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland
Los Angeles New York—Providence—Montreal—Toronto

For more details circle NED-188 L on enclosed inquiry slip

SAVE time and money in tubing circuits



Imperial Hi-Seal butt-joint tube fittings save space, tubing; eliminate many bends

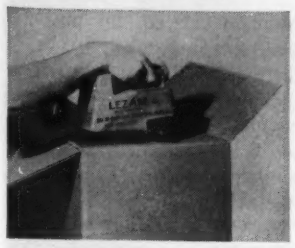
The sections of tubing layout shown above indicate how Imperial Hi-Seal fittings make possible more compact circuits, save as much as 66⅔% in installation time. Hi-Seal fittings make a positive butt joint — withstand high pressures. The tubing need not be sprung. And assembly is fast and foolproof. You can *see* when a Hi-Seal joint is tight — no danger of over-torqueing. Hi-Seal fittings stay pressure tight beyond the burst strength of the tube itself. Available in steel, stainless, aluminum and brass for ⅛" to 1½" O.D. tubing.

Write for Catalog 3108, or call your Imperial Industrial distributor.

IMPERIAL
THE IMPERIAL BRASS MFG. CO.
6300 West Howard Street NED-110
Chicago 48, Illinois 19-60

For more details circle NED-189 L on enclosed inquiry slip

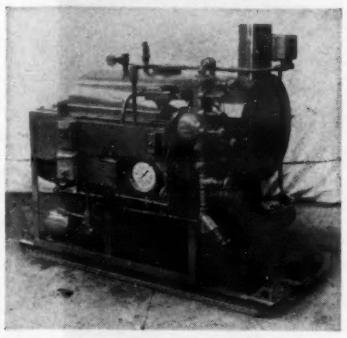
PORTABLE CARTON SEALER dispenses even coat of adhesive



Practically any size carton is quickly sealed with this Lezam Gluer which dispenses an even coat of adhesive over any desired area. Neat appearing packages are made which withstand shipping and handling. The handy device also simplifies the application of ungummed labels. Weighing only 3½ lb, the self-contained, portable unit lists for $39.50. • Ever-Seal Industrial Glues, Inc., Box 38, Flushing 65, N. Y.

For more details circle NED-190 L on enclosed inquiry slip

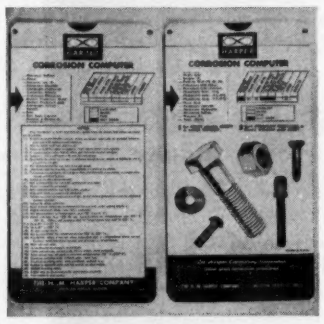
PACKAGED BOILER oil or gas-fired 6 to 100-hp units



Shipped fully assembled, completely wired, and with factory - installed controls, line of packaged horizontal return tubular boilers includes sizes from 6 to 100 hp. All that is needed is connection to utilities and stack. Burners for firing with light or heavy oils, gas, or combination gas and oil are optional. • Columbia Boiler Co., Pottstown, Pa.

For more details circle NED-191 L on enclosed inquiry slip

CORROSION COMPUTER slide rule reports on 141 chemicals

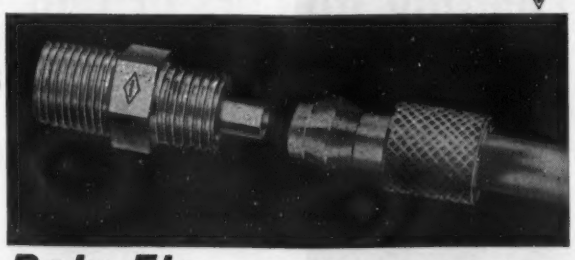


Resistance of eight types of metal to the corrosive effects of 141 chemical agents is readily determined with this slide rule type "Corrosion Computer." The metal groups are brass and naval bronze; Monel; Type 410, 416, and 430 stainless steel; Type 302, 303, 304, and 305 stainless; Type 316 stainless; copper; and aluminum. By merely setting the slide to the problem agent, how each of the eight metal groups reacts is shown, color-coded as to excellent, good, fair, or not good. Other data which serve as guides to specific factors involved are keyed to numbers on the color-coded indicators about various agent-metal combinations. Computer is offered free • H. M. Harper Co., Morton Grove, Ill.

For more details circle NED-192 L on enclosed inquiry slip

IMPERIAL Engineering and Data Digest

ENGINEERED TUBE FITTINGS — VALVES — TUBING TOOLS



Poly-Flo tube fittings cut time and labor costs up to 93%

Here's why instrumentation, and pneumatic circuit design engineers and many others prefer Imperial Poly-Flo tube fittings and color-coded Polyethylene tubing:

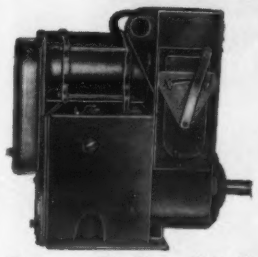
- Time and labor savings up to 93% have been reported with Poly-Flo fittings and polyethylene tubing as compared to metal tubing.
- Polyethylene tubing bends readily by hand.
- Fittings need only be finger-tightened.
- Working pressures to 125 psi (¼" O.D.); 160 psi (3/16" O.D.); 100 psi (⅜" O.D.).
- Temperature range: −90° F. to 175° F.

Write for Bulletin No. 3025-C for full facts

IMPERIAL
THE IMPERIAL BRASS MFG. CO.
Dept. NED-110
6300 W. Howard St., Chicago 48, Ill.
In Canada: 18 Hook Ave., Toronto, Ont.

For more details circle NED-193 L on enclosed inquiry slip

1½ HP. VARIABLE SPEED
0-350 RPM Hydraulic Transmission



Brand New SURPLUS
Gov't. Cost $3750.00
Save Thousands of $$$
Only $147.50 fob
Stock #6350
COMPLETE with MOTOR
220-Volt, 60 Cy., 3 Ph., A.C.

Now own this Heavy Duty Machine at a fraction of its true value!
SATISFACTION GUARANTEED or MONEY BACK!

Incorporates A Powerful 6-to-1 Torque Multiplier
For High Torque Applications Such As:

- Conveyors
- Machine Tool Drives
- Paper Machines
- Dairy Machines
- Elevators
- Winches
- Pumps
- Spring Coilers
- Sawmill Machinery
- Construction Machinery
- Textile Machinery

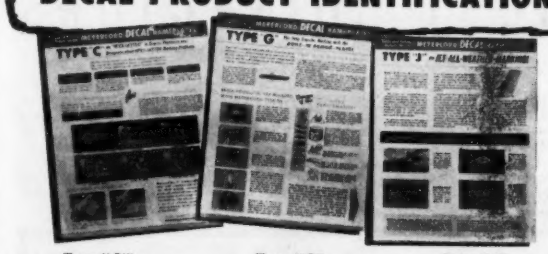
1½ horsepower capacity (continuous duty). Complete with totally enclosed motor, 220 volt, 60 cy., 3 ph., A.C. Output speed reversible in either direction from 0 to 350 RPM. Forward and reverse speeds can be the same or different. Speed is smooth and constant. Ideal for continuous reversing! Precise effortless speed selection. Neutral off position. Controls easily altered for remote control. Ball and Roller bearing throughout. Manufactured to rigid Gov't specifications. Extremely compact and self-contained; size 21½" long, 9" wide, 20½" high; 200 lbs. Output shaft 1" dia., 2½" long with standard keyway. Shipped complete with full instructions and service manual.

Other motors optional at additional cost. { 220/440 V., 60 Cy., 3 Ph. . .add $37.50; 200 V., 60 Cy., Single Ph. . .add $36.75

SUPPLY LIMITED! ORDER DIRECT FROM THIS AD
Write, wire or phone TAYLOR 9-1365
ROBERTS ELECTRIC COMPANY, Dept. ND-81
849 W. GRAND AVE. CHICAGO 22, ILL.

For more details circle NED-194 L on enclosed inquiry slip

New Meyercord Technical Bulletins *answer vital questions about* DECAL PRODUCT IDENTIFICATION



Type "C" The abrasion and solvent-resistant transfer for single or multi-color, open-letter designs!

Type "G" The toughest Decal known for solid-color-background designs!

Type "J" The outdoor, all-weather transfer for either open-letter, or solid-color-background design.

Write For This Up-to-the-Minute Information

Chances are even—that your product's marking problem, be it trademark or functional instruction, can be solved by one of these three MEYERCORD Nameplate Transfers.

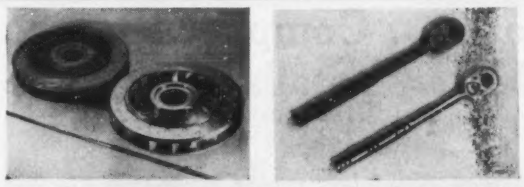
Technological changes in materials and finishes, higher standards for marking requirements—in terms of abrasion, immersion and weathering—require that 50% of today's transfer nameplates use one or more of the three Meyercord markings mentioned above . . . Type "C", Type "G", or Type "J"!

Your request will bring these three new technical bulletins promptly. The trained Meyercord sales representative in your area will gladly assist you in the selection of the proper type of Meyercord Decal Transfers to meet your special requirements. Just ask for ☐ Type "C", ☐ Type "G", ☐ Type "J"—or all three.

CLIP AND ATTACH TO LETTERHEAD—PLEASE

the MEYERCORD co.
Dept. V-316 5323 West Lake Street, Chicago 44, Illinois

For more details circle NED-195 L on enclosed inquiry slip



AIR CUSHIONED VIBRATION
You never had finishing like Pangborn Vibratory Finishing

Pangborn Vibratory Finishing—culmination of years of experimentation*—is the newest method for cleaning, descaling, radiusing, fine finishing and burnishing all metal parts, suitable plastic and ceramic items.

- Up to 100 times faster than other methods
- Most compact vibrator on the market
- Does work impossible to do with barrel finishing or other means
- Automatic leveling and amplitude controls
- Standard basic machines equipped with variable speeds

Send parts with exact finishing specifications, or finished specimen, for sample processing in our laboratory to: Mr. William E. Brandt, PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

*Pat. No. 2,422,786; June 24, 1947

Pangborn OF HAGERSTOWN

For more details circle NED-196 L on enclosed inquiry slip

just ONE DUSTKOP STOPS DUST

heavy duty unit services up to 19 MACHINES

In the complete line of Aget Dust Collectors there are sizes that will service from one to nineteen machines—large or small. Some exhaust cleaned air externally . . . others clean and recirculate air within your plant. Write for illustrated folder . . . today.

46 Standard Models—Ready to Use

AGET manufacturing company
1396 Church Street • Adrian, Michigan

▲ For more details circle NED-197 L on enclosed inquiry slip ▲

FOR LIFTING where and when POWER you need it . . .

specify RUGER
MULTI-PURPOSE CRANES

Ruger Hydraulic Cranes reach in-under-over . . . unload trucks . . . lift motors, machinery and crates . . . lay pipe . . . tilt drums . . . mate dies . . . combine all your lifting and transporting problems into one operation. Manual and electric models available are floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable leg and retractable outrigger (for side lifting). WRITE FOR DETAILS AND PRICES.

NEW STACK-OR-LIFT ACCESSORY AVAILABLE FOR ½, 1 AND 2 TON MODELS

THE CRANE WITH 1000 USES

RUGER

RUGER EQUIPMENT, INC.
6794-RE 619 West Fourth Street • Uhrichsville, Ohio

▲ For more details circle NED-198 L on enclosed inquiry slip ▲

CONVEYOR ROLLS
LAWN MOWER ROLLS
PULLEY ROLLS
BY
LAKIN

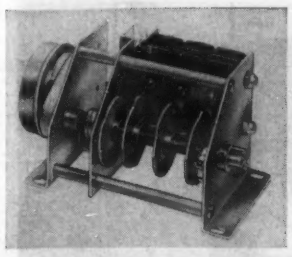
Put extra quality into your equipment with these sturdy, rubber and cord rollers. They have better co-efficient of friction than molded rubber rollers or steel rollers. Lakin engineers have a wealth of experience in the installation of these rollers to many unusual applications. Write or phone for further information.

Pat. Nos. 2,416,123 2,416,124 2,690,752

A. LAKIN & SONS, INC.
2044 N. Dominick St., Chicago 14, Ill. • GRaceland 7-2444

▲ For more details circle NED-199 L on enclosed inquiry slip ▲

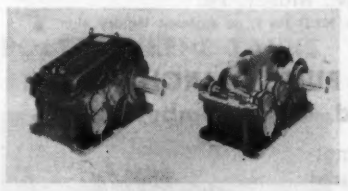
CAM PROGRAM TIMER
for time cycles up to 60 hr



Designed primarily for original equipment applications, Series 650 multiple switch cam timer has an external clutch for instant automatic reset regardless of time cycle. Any time cycle from 1 sec to 60 hr can be specified. It can be supplied with two to five load switches and with adjustable or preset cut cams. Prices of these 115-v or 220-v 60-cycle ac timers range from $25.50 to $45.50. • **Industrial Timer Corp.**, 1407 McCarter Highway, Newark 4, N. J.

▲ For more details circle NED-200 L on enclosed inquiry slip ▲

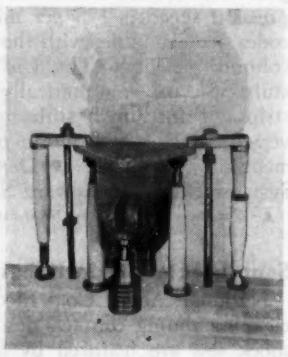
SPEED REDUCERS
57 sizes offered in expanded line



Redesigned and expanded line of balanced-design parallel shaft speed reducers provides 57 sizes to match drive selections to horsepower requirements. Line includes single reducers in 17 sizes with ratios up to 9.78:1 and capacities to more than 2800 hp; double reduction units in 20 sizes with ratios from 11.4:1 to 70.6:1 and capacities to more than 1700 hp; and triple reducers in 20 sizes from 31.4:1 to 292:1 ratios and capacities to more than 900 hp. Welded steel housings to withstand severe external abuse are available. • **Link-Belt Co.**, Prudential Plaza, Chicago 1, Ill.

▲ For more details circle NED-201 L on enclosed inquiry slip ▲

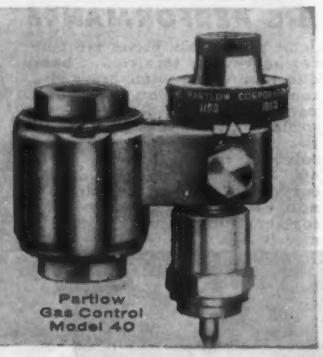
CLAMP & JACK SYSTEM
for machine tool set-up work



Clamping and jacking on medium and small machine tools are uses for the B Series Clamp-N-Jack set-up system. Components consist of swivel bases and strap clamps that are assembled to provide infinitely adjustable support. Spacer tubes allow additional clamping height when assembled with the swivel bases. Tubes and swivel bases can be used with a special base to make an adjustable jack for work support. Clamping range is from 0 to 30 in. Components which take studs with diameters up to ½ in. are available singly and in sets. • **Universal Vise & Tool Co.**, Parma, Mich.

▲ For more details circle NED-202 L on enclosed inquiry slip ▲

NEEDS NO OUTSIDE POWER SOURCE!



Partlow Gas Control Model 40

PARTLOW
Throttling Gas Valve

Partlow gas controls for heating appliances are completely self-contained—need no outside power or extra accessories. Accurate . . . maintain exact temperatures without seesawing or overshooting. Convenient . . . elements can be changed at the job site. Available in 9 optional temperature ranges up to 1100°F., and in models to accommodate pressures up to 20 psi., and pipe sizes from ¼ to 3 inches.

For details write Dept. N-1160
The Partlow Corp., New Hartford, N. Y.

PARTLOW
TEMPERATURE CONTROLS

▲ For more details circle NED-203 L on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

▲ For more details circle NED-204 L on enclosed inquiry slip ▲

This Revolving Joint Seals perfectly at any angle the ROTARY UNION*

The Rotary Union can be installed at any angle without putting strain on sealing surfaces. This, plus patented features which automatically compensate for machine wear and adjust to fluctuations in line pressure, make the Rotary Union the most efficient and most durable rotating joint you can buy.

There is a Rotary Union for every heating or cooling application in pipe sizes ¼" through 5". Write for Bulletin 700 today.

*Trade Name—Patented

"WHERE Good Connections COUNT"®

PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

▲ For more details circle NED-205 L on enclosed inquiry slip ▲

INVESTIGATE!

BEAM LP-Gas CARBURETION

BEAM CARBURETION SYSTEMS

- Easiest to Install
- Most Compact in the Industry
- Offer Many Exclusive Advantages

For instance, the Beam Model 60 Vaporizer-Regulator is only 4" in diameter, 3" thick and weighs 24 oz. It handles all engines up to 60 hp. The Beam "Water-Runner" installation system saves time, cost and space.

Beam has the most extensive line of complete, ready-to-install carburetion systems in the Industry.

CONVERT WITH BEAM Write today for complete details and specifications for your equipment.

THERE'S A BEAM OFFICE NEAR YOU

BEAM PRODUCTS MFG. CO.
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Factory: 3040 Rosslyn St., Los Angeles 65
Export Division: 354 S. Spring St., Los Angeles 13
SALES OFFICES AND/OR WAREHOUSES
NEW YORK 96-10 Linden Blvd., Ozone Park 16, Queens
FLORIDA 2500 N.E. 48th St., Pompano Beach
TENNESSEE 2020 Airways Blvd., Memphis 4
ILLINOIS 1414 S. Michigan Ave., Chicago 5

▲ For more details circle NED-206 L on enclosed inquiry slip ▲

FOR INDUSTRY OR HOME-CRAFT 8" TILT ARBOR SAW

BUY DIRECT FROM FACTORY

NOW $14.85 WAS $29.95

COMPLETE AS SHOWN—LESS BLADE

5/8" NEW DEPARTURE BALL BEARING SPINDLE PRECISION GROUND CAST IRON TABLE

Ideal for light factory work — excellent for the home workshop — that's the new Model 590B 8" TILT ARBOR SAW. Over 300,000 sold already! Does everything same as saws costing 4 times as much — cross cuts, rips, bevels, mitres, dadoes, cuts compound angles. Adjustable depth of cut: 0" to 2¼". Blade tilts to 45°. Heavy duty all cast iron and steel construction. Precision ground cast iron table. Sealed NEW DEPARTURE ball bearings never need lubrication. Price includes massive cast iron mitre gauge and patented motor drive that fits any motor. All parts and labor guaranteed 10 years.

SPECIAL BARGAIN . . . This saw is our 1960 Model — *brand new* — shipped in factory sealed cartons. Sold and guaranteed from factory to you at fantastically low price.

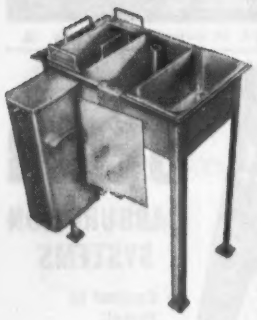
MONEY BACK GUARANTEE . . . This saw and parts are guaranteed 10 years! Try it for 10 days. If not completely delighted — FOR ANY REASON — return for immediate refund. Order Model 590B. *SENT EXPRESS COLLECT—Send check or M.O. $3.00 deposits on C.O.D.'s • Open account to rated firms*

AMERICAN MACHINE & TOOL CO.
ROYERSFORD 97, PA.
Our 30th Year Manufacturing Quality Power Tools
Pennsylvania residents add 4% sales tax

▲ For more details circle NED-207 L on enclosed inquiry slip ▲

NOW you can get ULTRA EFFICIENT CLEANING of Small Metal Parts

PALL METAL PARTS Chemical Cleaner



- Provides highest degree of surface cleanliness and brightness
- Removes encrusted carbon, weld oxidation, brazing flux, varnish and paint
- Low first cost, indefinite life with minimum maintenance
- No electronic or moving parts

The PALL Metal Parts Chemical Cleaner is designed for use with hot chemical-detergent solutions, to produce a clean, bright surface on stainless steel and other metal parts. Cleanliness levels exceed a wide range of ultrasonic equipment for such applications as internal tubing surfaces, small holes in fittings, valves, and other complex shapes.

PALL-Clean solutions combine effective chemicals and high efficiency detergents to remove or dissolve carbon, oxides of chromium, iron and nickel, and siliceous (earth-derived) contaminants. Unwanted materials, including visible and invisible clinging foreign matter are rapidly and completely removed.

Original and maintenance costs are a fraction of other types of cleaners. This one self-contained unit provides an efficient parts cleaning department.

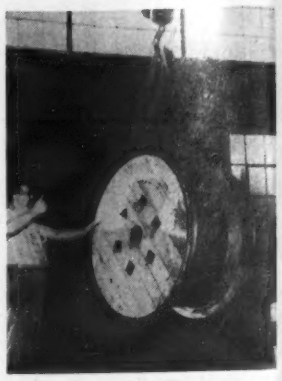
Write for descriptive literature.

PALL CORPORATION

GLEN COVE, NEW YORK ORiole 1-4000

▲ For more details circle NED-208 L on enclosed inquiry slip ▲

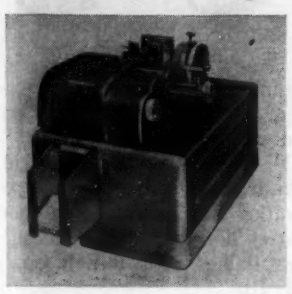
WEB BELT SLINGS will not harm load surface, finish



Soft metal loads, or those with machined surfaces or high finishes are lifted without damage with Safety-Weave web belt slings. They are made in five different nylon and Dacron types in widths ranging from 1 to 12 in., with up to 24-in. widths available on special order. Principal reserve strength is in the inner plies which are protected from abrasion by two outer plies. Slings are light in weight, resist rot and bacteria, and are safe under 8 to 10 per cent elongation. Neoprene coating, which increases abrasion resistance and coefficient of friction, is optional. • **Jones & Laughlin Steel Corp.**, Wire Rope Div., Muncy, Pa.

▲ For more details circle NED-209 L on enclosed inquiry slip ▲

CODE PRINT & PUNCH MACHINE makes coded, serial numbered tags



Serially numbered multiple stub tags produced by the Print-Punch machine can be used as basic input media in data processing systems governing production, inventory, shipping, and inspection control, or piece rate payroll. The machine produces either 20 or 26 digits of imprinted and code-punched data, plus a five-digit imprinted and code punched serial number on each stub of the tag. The serial number may be either repetitively or consecutively numbered from 00,001 to 99,999. Machine will repeat one number 2 to 10 times before advancing. Impression speed is 175 per minute. Four and five-unit codes are available, with the stub size depending upon column capacity. The 1 x 2.7-in. or 1 x 3 7/32-in. stubs are fed automatically in continuous fanfolded strips. Print-Punch stubs may be automatically converted to 80 or 90-column punched cards with equipment now available. • **Dennison Mfg. Co.**, Machine Systems Div., 300 Howard St., Framingham, Mass.

▲ For more details circle NED-210 L on enclosed inquiry slip ▲

Snap-Lock Limit Switches

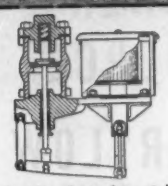
National Acme Co., Electric Controls Div.—Self-cleaning sliding contacts designed to withstand 2000-lb shock test are featured by SLS Series snap-lock limit switch described in 4-page Bulletin EC-SLS-60. Switches are available in one, two, or three-pole assemblies and have interchangeable cams which permit a wide range of operating sequences.

▲ For more details circle NED-211 L on enclosed inquiry slip ▲

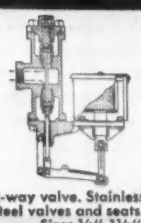
BIG LINE-UP BIG PERFORMANCE

Johnson Solenoid Valves are built for heavy duty service . . . handling, air, water, steam, heavy viscous liquids. No pilots or pistons; powerful leverage design opens smaller valves against 250 lbs. Because of the remoteness of the solenoid, temperatures up to 400° F. are easily handled without adverse effect on the solenoid coil. Bodies are bolted together. Explosion-proof models also.

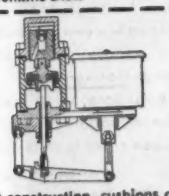
JOHNSON Direct Operated SOLENOID VALVES



Normally closed service, stainless steel valve and seat. Sizes 3/8"-3". Also for normally open service, and with Jenkins Disc.



3-way valve. Stainless steel valves and seats. Sizes 1/2"-1 1/2".



Dashpot construction, cushions closing to avoid water hammer. Jenkins Disc. Sizes 3/4"-2".

Write for Bulletin "V"

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Mich.

▲ For more details circle NED-212 L on enclosed inquiry slip ▲

How to select WORM GEAR Drives FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle NED-213 L on enclosed inquiry slip ▲

shipping
instruction
inspection
warning
inventory
perforated
die cut
book style
numbered
manifold
metal eyelet
wired
strung
paper or cloth
20 grades of paper
14 colors
moisture resistant

top quality... priced right TAGS

Save time, cut costs . . . buy direct!

Emergency service a specialty. *Write today for price sheet and samples.*

SPARK* makes the difference
STONE CONTAINER Corporation
Campbell Division, South Bend 23, Indiana
General Offices:
4200 W. 42nd Place, Chicago 32, Illinois

* Stone Packaging And Research Know-how

▲ For more details circle NED-214 L on enclosed inquiry slip ▲

KUTMORE ADJUSTABLE HOLLOW MILLS

Get Speed!
Get Precision!

• ANY COMBINATION OF . . . TURNING . . . TAPERING . . . FACING . . . CHAMFERING . . . TREPANNING IN **ONE PASS** • EXCLUSIVE **MICROMETER** ADJUSTMENT FEATURE FOR RAPID SET-UP • CUTTING CAPACITIES FROM 1/32" TO 2" DIAMETER IN STANDARD STOCK.

Our Engineering Department is at your disposal on your Hollow Mill problems.

1625 CLINTON AVE. NO.

CARL WIRTH & SON, INC.
ROCHESTER 5 N Y

Write For Catalog 20NE

▲ For more details circle NED-215 L on enclosed inquiry slip ▲

Every Production and Maintenance Man Needs This

NEW FREE FOLDER

Tells how Invincible Vacuum Equipment is being used to reclaim, process and convey scores of materials . . . how it also reduces general maintenance costs.

Subjects include: Pneumatic conveying of plastics. Machine sump cleaning. Removing press punchings. Cleaning boiler tubes. Packaging. And many more. Covers applications in virtually every industry. Lists typical materials handled. Describes range of standard and special models, from ½ to 10 H.P.

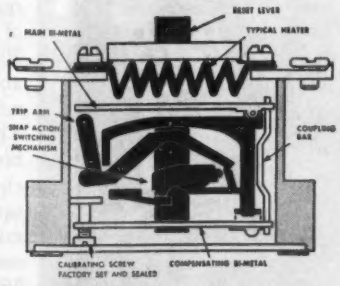
SEND FOR "VACUUM EQUIPMENT FOLDER"

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

▲ For more details circle NED-216 L on enclosed inquiry slip ▲

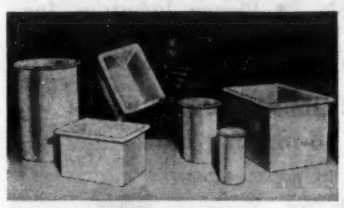
OVERLOAD RELAY
trip time unaffected by temperature

Compact overload relay for use in roof-top air conditioners or equipment subject to sharp ambient temperature changes compensates for both heat and cold. Tripping time is held constant at all temperatures from −20 to 165° F by a compensating bimetal element. Available with all A-H magnetic starters in NEMA sizes 0 to 5, relay is supplied in ratings from 25 to 300 amp, continuous. Manual reset is normal, although a change-over lever for manual or automatic reset is optional. • **Arrow-Hart & Hegeman Electric Co.**, Industrial Control Div., 103 Hawthorn St., Hartford 6, Conn.



▲ For more details circle NED-219 L on enclosed inquiry slip ▲

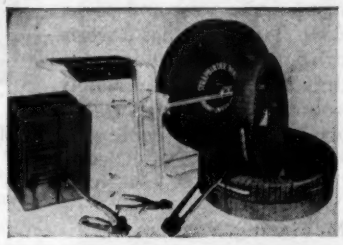
POLYETHYLENE TANKS
in capacities from 10 to 55 gal



Line of natural color molded polyethylene tanks produced by the Thermofusion Process consists of six standard capacities from 10 to 60 gal. They have self-supporting, heavy walls ⅛ to ¼ in. thick. Rectangular tanks are offered in 10, 30, and 60-gal capacities, whereas circular drum types are provided in 10, 30, and 55-gal sizes. • **American Agile Corp.**, Box 168, Bedford, Ohio.

▲ For more details circle NED-220 L on enclosed inquiry slip ▲

STEEL STRAPPING KITS
contain required tools, materials



Strapbinder combination strapping units supply everything necessary for setting up complete strapping operations. Kits are available for light, medium, or high production strapping on an assembly line basis. All units contain 300 lb of flat steel strapping and a mobile strap dispenser which also serves as a tool holder. Three units for average strapping users contain a tensioning tool, sealer, strap cutter, and 5000 seals. Two production line strapping units have high speed tools which automatically tension, seal, and score strap in one operation. They have 4000 magazine-fed seals or 5000 thread-on seals. • **A. J. Gerrard & Co.**, 400 E. Touhy Ave., Des Plaines, Ill.

▲ For more details circle NED-221 L on enclosed inquiry slip ▲

New Sealed Aluminum Hoist Line means easy lifting in any weather!

Efficient hoist performance is assured by sealing out moisture, oils, chemicals and dirt from the brake mechanism. Five seals provide permanent protection under exposure conditions.

Lifting is easy with the Coffing Sealed Disk Brake Lever Hoist because the handle pull to lift rated load requires only 57 pounds with the ¾-ton model to 93 pounds with the 6-ton model. Load spotting is precise—to within minute fractions of an inch. Sealed brake will not slip. Six models—¾ to 6-tons.

The high strength aluminum alloy frame is light—makes for easy portability. Ask your distributor or write for Bulletin ADH-78.

MA-15 ¾-ton

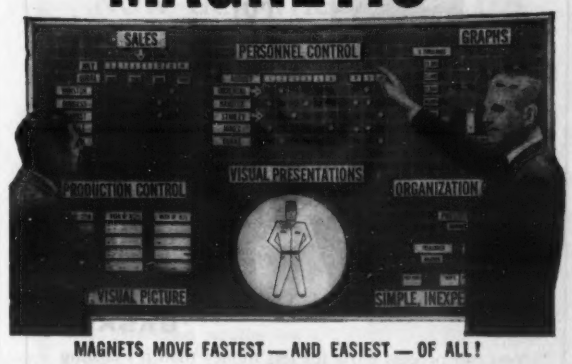
COFFING HOISTS

DUFF-NORTON

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-217 L on enclosed inquiry slip ▲

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

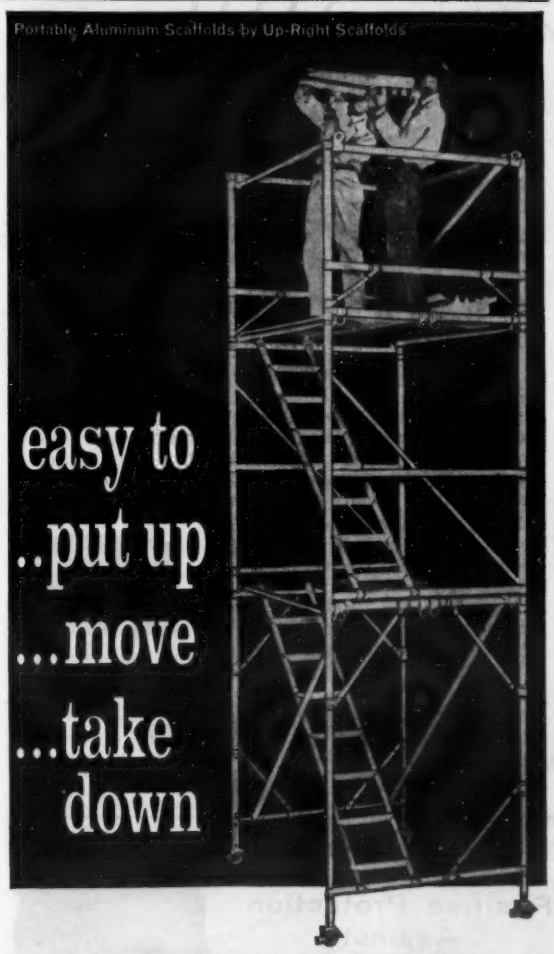
PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE11 **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105 Willow Ave., Staten Island 5, New York

▲ For more details circle NED-222 L on enclosed inquiry slip ▲



SCAFFOLDS of strong, lightweight REYNOLDS ALUMINUM

Aluminum weighs only ⅓ as much as steel—and pound for pound, it's actually stronger.

That's why you make your painting and other maintenance work so much easier with scaffolds of Reynolds Aluminum. They're easier to handle, move and use.

And, because aluminum is strong and rustfree, these scaffolds serve longer, with little or no attention.

For names of the manufacturers of strong, lightweight, work-saving aluminum scaffolds, write *Reynolds Metals Company, P.O. Box 2346-NO, Richmond 18, Virginia.*

Watch Reynolds new TV show "Harrigan & Son", Fridays; also "All Star Golf", Saturdays—ABC-TV.

▲ For more details circle NED-223 L on enclosed inquiry slip ▲

Save space you can't afford to waste

YALE WAREHOUSERS

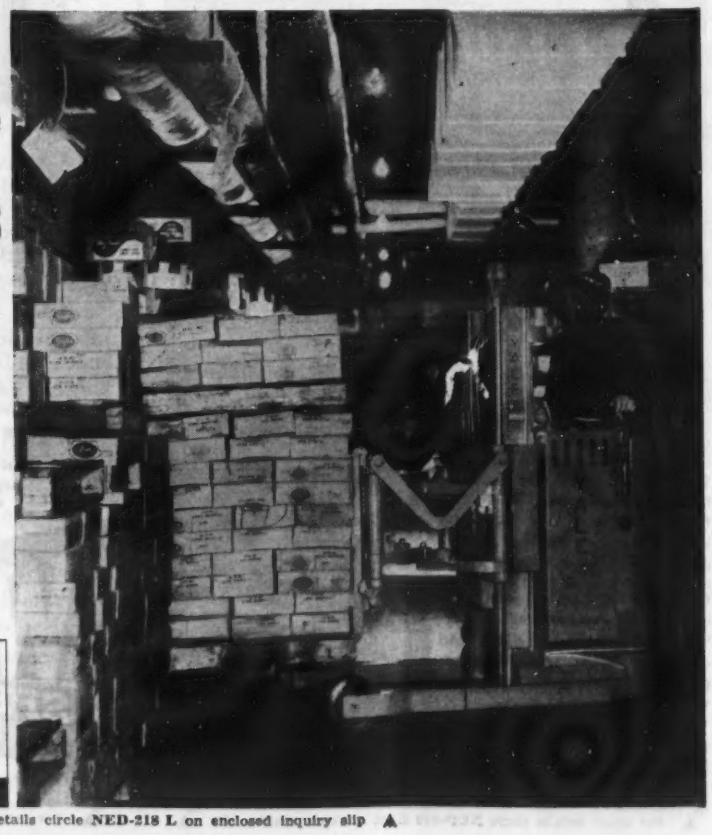
• Get more pallet rows in the same space • Can work in a 6 ft. aisle • Stack to 20 feet and more • Save on low maintenance • Reduce power costs with 2000, 3000, 4000 lb. capacity.

24 volt power. Handles various widths of loads, because different size pallets and skid bins can be handled without nesting between outriggers. Exclusive separate power unit for fork extension. Extend-retract device designed for low overall height. Forks can be extended, retracted or tilted at any height of lift. Loads stay stable.

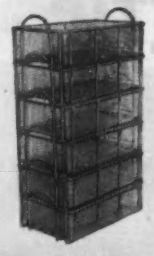
START SAVING NOW. Yale has a finance plan that will put this truck to work for you immediately. For more information, contact your Yale Representative, or write to: Yale & Towne Manufacturing Company, Materials Handling Division, Philadelphia 15, Pa. Dept. R-0058.

Yale Materials Handling Division, a division of the Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa. Forest City, Ark. Products: Gasoline, Electric, Diesel, and LP-Gas Industrial Lift Trucks • Worksavers • Warehousers • Hand Trucks • Industrial Tractor Shovels • Hand, Air, and Electrical Hoists.

YALE
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS · HOISTS
YALE & TOWNE



▲ For more details circle NED-218 L on enclosed inquiry slip ▲

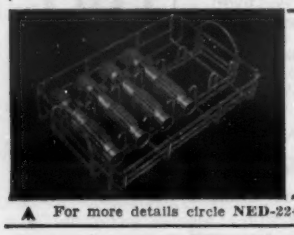


PUT PARTS HANDLING ON A LOW COST BASIS

EEZY STAK®

BASKETS

You can process parts for less money than it's costing you now by using Eezy-Stak parts handling baskets! Eezy-Staks have the exclusive patented "Inter-Lok" handles for convenient, compact stacking and storage. Parts handled safely . . . less risk of damage . . . rejects reduced. *Two types—compartmented baskets for segregated parts handling, open mesh type for bulk handling.* May be zinc-plated, plastic or neoprene-coated.



WRITE TODAY FOR BULLETIN B-57

Wire and Iron Products Inc.
1724 Sixteenth Street
Detroit 16, Michigan

▲ For more details circle NED-224 L on enclosed inquiry slip ▲

New! Kidde's proximity alarm traps intruders in their tracks!

Now — protect safes, storage lockers and filing cabinets against theft, tampering or intrusion with Kidde's new Prox-O-Larm. Prox-O-Larm acts instantly when an intruder approaches, triggers alarm either locally or at central station.

Both compact and light in weight, this new Kidde unit is easy to install, simple to maintain, and is transistorized for dependable service and long life. Powered either by dry cells or 12-volt transformer. For details, write Kidde today.

Prox-O-Larm Control Unit
6½" x 11" x 8"

Kidde

Kidde Ultrasonic & Detection Alarms Division, 1124A Brighton Rd., Clifton, N. J.
Walter Kidde & Company, Inc.

▲ For more details circle NED-225 L on enclosed inquiry slip ▲

At Last...

Positive Protection Against

Paint Spray

with the NEW

FLEX-A-PRENE® PAINT MASK

New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy

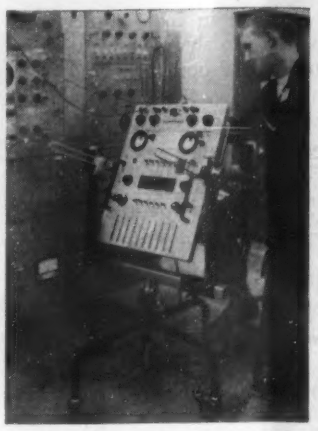
Flex-A-Prene's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid (INDUSTRIAL PRICE ONLY)

FLEXO Products, Inc.
Westlake, Ohio

▲ For more details circle NED-226 L on enclosed inquiry slip ▲

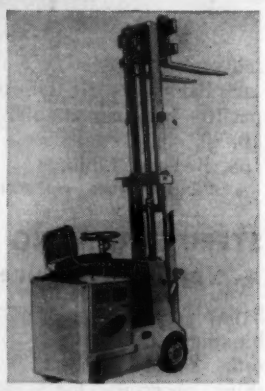
ELECTRONIC ASSEMBLY HOLDER takes chassis up to 30 in. square



Increases in the efficiency of electronic assembly operations are realized with the use of the Tronic-Hold T-300 portable, adjustable chassis holder with a 200-lb capacity. The floor model work holder accommodates chassis up to 30 in. square. Design permits vertical and horizontal rotation through 360 degrees and height adjustment from 35 to 46 in. Scissor clamps are available for use with chassis without front panels. Four 3 or 5-in. diameter rubber tread casters, two with foot-operated locking mechanism, permit easy movement. The tubular steel unit has cadmium plated movable parts and a dark gray wrinkle finish. Nonportable bench model which rotates 360 degrees vertically is also available. • **Flotron Industries, Inc.,** 1608 Centinela Ave., Inglewood 3, Calif.

▲ For more details circle NED-227 L on enclosed inquiry slip ▲

ELECTRIC STACKING TRUCK lifts 2000-lb 48-in. long load



Fast tiering of up to 48-in. long, 2000-lb loads is performed under restricted warehouse conditions by the F-26TA-2 electric stacking truck. It has a short turning radius, is equipped with automotive controls, and has a natural driving position. Inner uprights and elevator carriage are roller mounted to minimize wear and power loss. Truck also has a worm drive, twin tilt cylinders, hydraulic wheel brakes, safety controls, and caster trail axle. A 3000-lb capacity model is also available. • **Elwell-Parker Electric Co.,** 4205 St. Clair Ave., Cleveland 3, Ohio.

▲ For more details circle NED-228 L on enclosed inquiry slip ▲

Measuring Vacuum

Consolidated Vacuum Corp.—"Measuring Practically Nothing" could well be the title of 32-page Bulletin 9-1 which describes how to use absolute manometers, thermal gages, ionization gages, and combination types in checking pressures ranging as low as 9×10^{-12} mm Hg absolute. Complete specifications are given on various types of vacuum gages and accessories which operate on 115-v ac.

▲ For more details circle NED-229 L on enclosed inquiry slip ▲

Same formula as famous Kroil that has pleased 14,000 industrial users for 10 years or more.

Loosens stuck together metal parts, bushings, bearings, bolts, screws, pipe, etc., "anything from an embalmer's needle to a bulldozer," one customer said.

"Like an extra employee," said another. "Turned rust into mush, put $50,000 equipment back to work."

You too can get these results.

Try Aerokroil at our risk. Send $2 cash, and we'll pay postage.

12-OZ. CAN $2. F.O.B. NASHVILLE
CASE OF 12 $18.75

KANO LABS. 1074 Thompson Lane Nashville 11, Tenn.

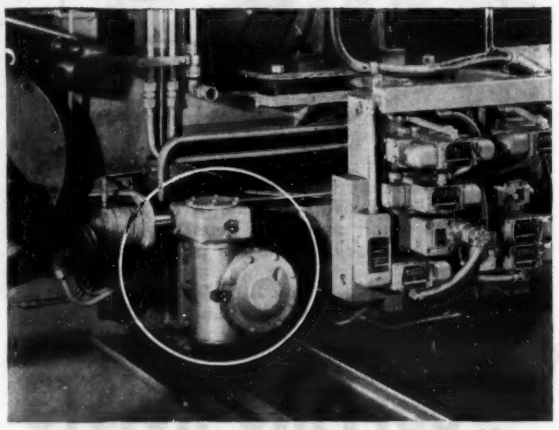
▲ For more details circle NED-230 L on enclosed inquiry slip ▲

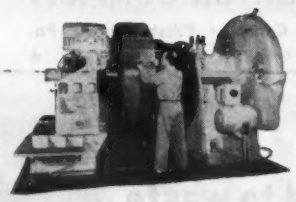
▲ For more details circle NED-231 L on enclosed inquiry slip ▲

FARREL-BIRMINGHAM selects

WINSMITH

for compactness, heavy duty construction, ease of service





Farrel Model 10-T can cut gears having a max. pitch dia. of 120" with a 24" face. The generating feed mechanism is controlled by a hydraulic drive through a Winsmith Model 7 CVD Double Reduction Worm Gear Speed Reducer—ratio 120:1—providing maximum flexibility and a wide feed range.

Farrel Gear Generators — manufactured by Farrel-Birmingham — are machines of unusual accuracy and versatility. They are used for mass production, general jobbing and tool room work. Their speed, precision and convenience of operation increase output and decrease costs of generating gears of all types.

Farrel-Birmingham selected Winsmith Worm Gear Speed Reducers because of their compactness, precise heavy duty construction, their ease of maintenance and parts availability. These add up to maximum service — minimum maintenance and downtime.

WRITE TODAY for complete selection information and engineering data on the hundreds of Winsmith types and sizes. For every application—from 1/100 to 85 hp., in ratios from 1.1:1 to 50,000:1—you'll find it pays to standardize on Winsmith.

WINSMITH SPEED REDUCERS

MEMBER OF AGMA

WINSMITH, INC.
119 Eaton Street, Springville, (Erie County), N. Y.

▲ For more details circle NED-232 L on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—
With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle NED-233 L on enclosed inquiry slip ▲

Tempilstik°

*temperature indicating crayons**

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

▲ For more details circle NED-234 L on enclosed inquiry slip ▲

ANOTHER WASSELL PRODUCT

HOW TO KNOW IT ALL

Versatile Produc-Trol can give immediate and complete information on almost every phase of production. No recourse to files is needed; with Produc-Trol all the factors of efficient production are scheduled before your eyes — you have the right answer every time.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

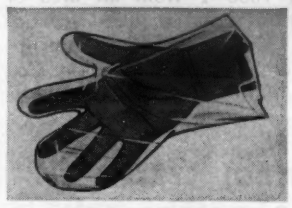
▲ For more details circle NED-235 L on enclosed inquiry slip ▲

AIR-WATER NOZZLE
uses hot or cold water for washing

Infinite selection of air-water pressures, water alone, or air alone is afforded by the Tri-Con booster nozzle's fingertip controls. It is used with hot or cold water in machinery, engine, driveway, floor, or wall flushing and degreasing. The 37-hole reversible nozzle cap provides a high power washing stream, rinsing spray, or full-flow jet. Used as an air gun, it blows water or dust out of crevices and performs drying and cleaning functions. Made of aluminum and brass, it sells for $9.95. • **Molded Specialties, Inc.**, 19801 St. Clair Ave., Cleveland 17, Ohio.

▲ For more details circle NED-236 L on enclosed inquiry slip ▲

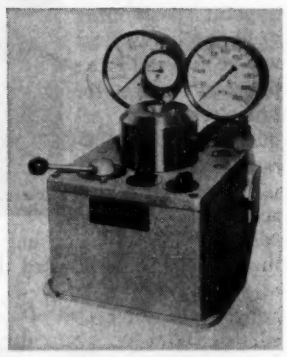
POLYETHYLENE GLOVE
disposable type has two fingers



Costing only a few cents, Polly polyethylene gloves can be thrown away after using a few times, or they can be reused. The two-finger style is easy to put on and take off, and affords dexterity in use. It provides protection against acids, caustics, and chemicals, and is watertight, waterproof, and chemically inert. • **Singer Glove Mfg. Co.**, 860 W. Weed St., Chicago 22, Ill.

▲ For more details circle NED-237 L on enclosed inquiry slip ▲

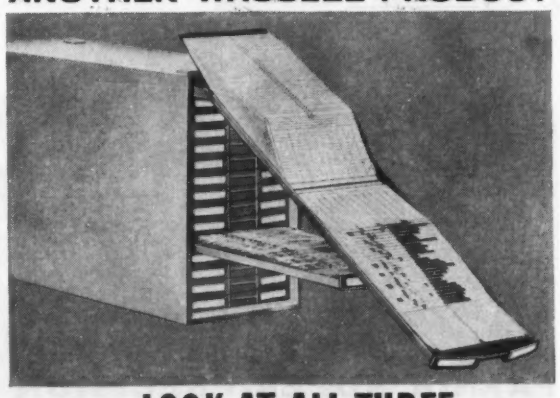
PRESSURE REGULATOR
stainless unit samples low flows



Sampling errors due to contamination of industrial gases are prevented by use of this stainless steel pressure regulator which eliminates the need for bleed flows in total purity measurements. Very low flows can be sampled from compressed gas cylinders by the single-stage regulator. Moisture and trace oxygen measurements are quickly made with the unit, also suited for precise chromatography analysis. Regulator body is machined from solid stainless, has nylon valve seat, Teflon gaskets, and stainless steel diaphragm. Inlet and outlet gages have 3000 and 100-psi maximums, respectively. Flow is 0 to 10 cfh. • **Thermco Instrument Corp.**, U. S. Route 20, La Porte, Ind.

▲ For more details circle NED-238 L on enclosed inquiry slip ▲

ANOTHER WASSELL PRODUCT



LOOK AT ALL THREE

You'll find these exclusive advantages in Wassell Visible Sig-Na-Lok:

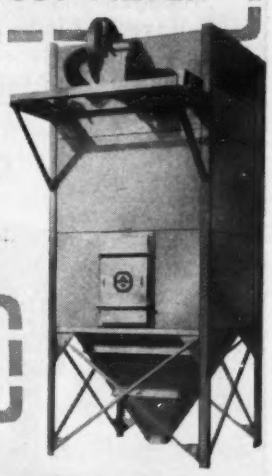
- Superior accuracy because signals lock in place — won't cause mistakes.
- Quicker alphabetical changes — because pockets **snap out, snap in.**
- Longer pocket life because pockets are bound full width — never tear.

Wassell Visible Sig-Na-Lok streamlines your records on inventories, maintenance schedules, personnel.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

▲ For more details circle NED-239 L on enclosed inquiry slip ▲

NOW GET THE FACTS ON NEW KOPPERS MODEL K AEROTURN® DUST FILTER



You recover more product, at lower cost, more dependably with the all-new Koppers Model K Aeroturn—the only new reverse-air jet filter on the market. New blow rings, new carriage drive system, standardized design—backed by 15 years of diversified application experience — fit Aeroturn Model K for demanding industrial service.

Write now for free, informative brochure to: KOPPERS COMPANY INC., Dust Filter Dept., 4311 Scott St., Baltimore 3, Md.

KOPPERS AEROTURN® DUST FILTERS
Engineered Products Sold with Service

▲ For more details circle NED-240 L on enclosed inquiry slip ▲

NEW! Portable Electric Bag Closing Machine

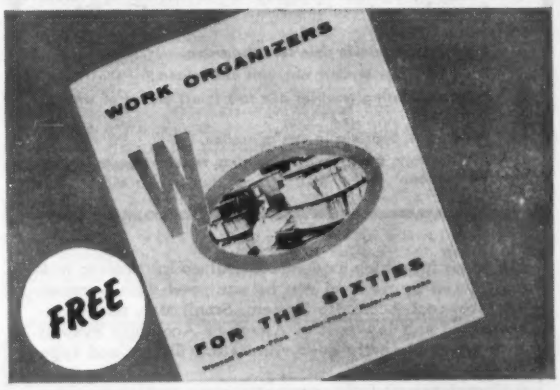
HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT — 9½ pounds. Carry it anywhere. No installation; requires only an electrical outlet.
POWERFUL—Exclusive top and bottom feed for greater power and production. Direct drive motor with thumb control button.
VERSATILE — Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper. Produces two-thread stitch Type 401, or can be furnished to produce single-thread chain stitch Type 101.
SAFE — Anyone can operate it. No special training required. Can be obtained with overhead suspension. Also, can be supplied with pedestal bracket.

Union Special® MACHINE COMPANY
Originator of Filled Bag Closing Machines
416 North Franklin Street Chicago 10, Illinois

▲ For more details circle NED-241 L on enclosed inquiry slip ▲

ANOTHER WASSELL PRODUCT



32 PAGES OF ANSWERS
TO HIGH CLERICAL COSTS

Here is the story of the new Wassell Work Organizer principle of filing — full of ideas and examples of how major firms are using Wassell filing systems to save time and dollars.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

▲ For more details circle NED-242 L on enclosed inquiry slip ▲

The tough ones always go to The Sound Engineering People (Burgess-Manning Co., 9227 Sovereign Row, Dallas). And in more than 50 years' research and engineering for all types of industries, we've never failed to solve a noise problem! How can we help you?

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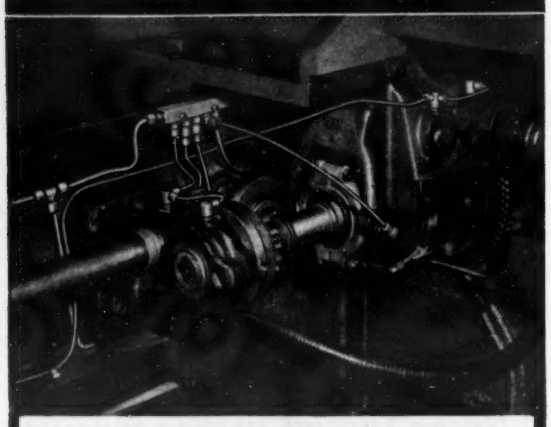
ALEMITE ACCUMITE® LUBRICATION OFFERS YOU

Small Size • Simple Installation • Low Cost

FOR ANY SIZE MACHINE!



All the Advantages of "Built-In" Measured Lubrication!

- Meters exact amounts of lubricants to all bearings whenever system is operated.
- Accurately meters these shots of oil or grease: .003 cu. in., .006 cu. in., .009 cu. in. Available with adjustable fittings for applications requiring measured metering from .003 cu. in. to zero.
- Eliminates shutdown time for lubrication.
- Seals bearings against dirt, grit and water.
- Prevents bearing troubles due to neglect or use of wrong lubricants.
- Services all bearings in one operation.
- Avoids work spoilage and bearing repairs due to over-lubrication.

Machines for which modern centralized lubrication was considered impractical can be equipped with a versatile, low-cost Accumite System. Small size, simple installation and low cost of Alemite's Accumite System overcomes virtually every limitation in size and type of application.

Complete with fully automatic pump, metering valves and controls, the Accumite System offers all the advantages of higher-priced systems.

Typical applications are: packaging, canning, labeling and textile machines . . . machine tools . . . tractor trailers, lift trucks and farm implements. Accumite lubricates either large or small stationary and mobile machinery.

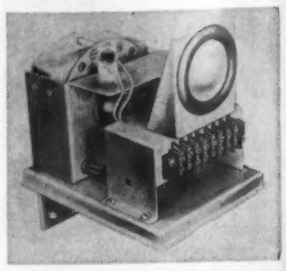
Write for Alemite Accumite Catalog!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-244 L on enclosed inquiry slip ▲

TEMPERATURE CONTROL photoelectric type measures infrared for control of industrial processes

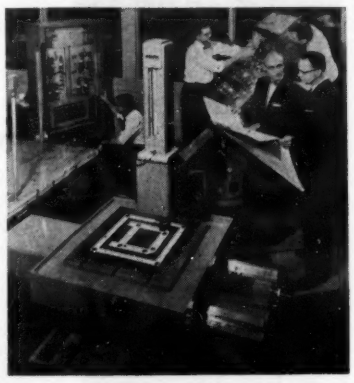


Control of temperature of moving parts or continuous strip, counting heated workpieces, control of automatic quenching, and regulation of induction or resistance heaters are applications for the Bulletin 5108 PyroTemp photoelectric temperature control. Operating on 105 to 125-v 60-cycle ac, it measures infrared radiation. When temperature of the heated workpiece exceeds a preset level, a relay operates. Amplifier, temperature selection dial, and output relay are housed in a separate control unit.

Model PT-803 is usable where the minimum temperature to be controlled is 500° F from an area of 0.125 sq in. at a distance of 1 ft. Its optical scanning system can be focused at very small areas. Ambient operating range is 0 to 100° F. Model PT-801 is for minimum temperatures of 1000° F from an area of 0.42 sq in. at 1 ft. Shortest signal required for operation of both models is 1/60 sec and maximum operating rate is 600 per minute. • **Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.

▲ For more details circle NED-245 L on enclosed inquiry slip ▲

POSITIONING CONTROL SYSTEM directs variety of machine tools with repeat accuracy to ±0.0005 in.

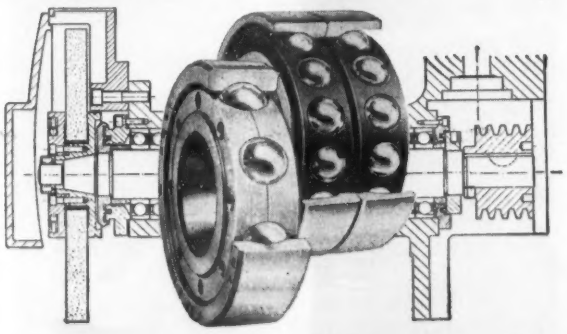


Virtually all precision machine tools or devices requiring accurate positioning can be directed by this RAPAC point-to-point positioning control system which utilizes punched tape for predetermining sequences. It is accurate within ±0.001 in. and has repeat accuracy within ±0.0005 in. An unusual linear transducer indicates direction of travel toward the desired positioning point at all times.

System is comprised of static components and encapsulated build-block circuitry to simplify maintenance. It is available complete, or in components for measuring drive, or data decoding subsystems. These components include Type A-S adjustable speed drive, linear transducer, phase detector, command transformer, power supply, and Norpak static decoding system. • **Square D Co.**, Dept. SA, 4041 N. Richards St., Milwaukee 12, Wis.

▲ For more details circle NED-246 L on enclosed inquiry slip ▲

For job-right selection . . .



FAFNIR SUPER-PRECISION BALL BEARINGS

You play it safe three ways with Fafnir super-precision ball bearings. 1. The Fafnir line includes the types, sizes, tolerances, capacities, retainer designs, contact angles, and preloads to meet your needs precisely. 2. Fafnir quality is unsurpassed. You're sure of top performance and service life. 3. Your Authorized Fafnir Distributor offers you competent technical help with replacements — plus Fafnir engineering services when needed. For job-right selection, get Fafnir Ball Bearings from Fafnir's coast-to-coast network of authorized distributors. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS

▲ For more details circle NED-247 L on enclosed inquiry slip ▲

Eastern PORTABLE MIXERS

especially designed for small batch processes

. . . offer precise mixing results with long-term cost savings

Eastern Portable Mixers give dependable, low-cost service in small batch processes. Where fixed mounted installations are not required, Eastern's Portables offer greater versatility, ease of handling, and long-term savings.

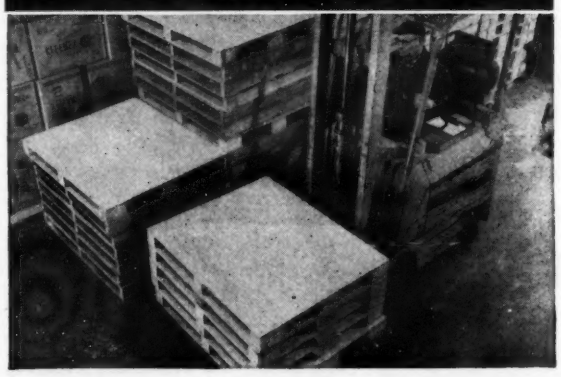
Speeds of 420, 1125, and 1725 R.P.M. rated from 1/20 to 3 H.P. are standard. Motors in all standard types can be supplied in open drip-proof, totally-enclosed, or explosion-proof construction.

Write for new Portable Mixer Bulletin 530-N.

EASTERN INDUSTRIES, INC.
MIXER DIVISION • NORWALK, CONN.

▲ For more details circle NED-248 L on enclosed inquiry slip ▲

CUT COSTS with FIR PLYWOOD



Plywood pallets last longer for West Coast Grocery Co. The big Tacoma, Wash. wholesaler switched from 1x6 boards to 5/8" fir plywood five years ago. Glue-nailed plywood pallets last many times as long as boards, and frequent repairs and replacements aren't needed. Easily damaged merchandise is given maximum protection because nails can't work loose and the smooth plywood surface is split-proof and splinter-free.

Only plywood with DFPA grade-trademarks is made and tested under industry-wide Douglas Fir Plywood Association quality control program. Look for letters DFPA on the panel.

DFPA TESTED QUALITY

Write for New File Folder Catalog

DOUGLAS FIR PLYWOOD ASSOC., DEPT. 181, TACOMA 2, WASH.

▲ For more details circle NED-249 L on enclosed inquiry slip ▲

AP Load-Lift SKID AND PALLET TRUCKS

It's Easy Rolling To Lower Costs

as low as $315.00

Separate pulling and load-raising handles assure maximum ease, safety, and maneuverability.

See your local AMERICAN Distributor for prompt delivery and expert planning help in all phases of materials handling.

AP THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

▲ For more details circle NED-250 L on enclosed inquiry slip ▲

ALL AMERICAN TESTERS
SPOT VIBRATION WEAK SPOTS BEFORE COSTLY FAILURE!

Model 10 HA-T
Horizontal Vibration, 5-100 C.P.S.

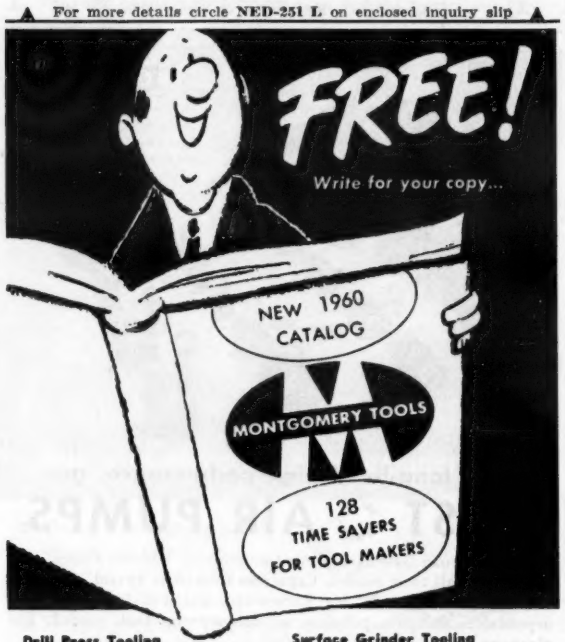
• How much vibration will your product take? Where are the danger areas? All American Vibration Fatigue Testers answer these questions in your shop or laboratory with shake-down tests that simulate field service vibrations. Engineering gets the facts needed to improve design at lowest cost. Equally effective in spot-checking production runs.

• All American Testers meet U.S. Government specifications for horizontal or vertical vibration testing of all sizes and shapes of units weighing up to 150 lbs. Range Selector automatically controls acceleration and deceleration, or holds vibration frequency at any desired point between 5 and 100 cycles per second.

CATALOG "F" gives full facts on all 10 All American Testers, proved in long service to government and industry.
Write for your free copy now.

ALL AMERICAN TOOL & MFG. CO.
Builders of ALL AMERICAN Precision Die Filing Machines
8044 Lawndale Avenue • Skokie, Illinois

For more details circle NED-251 L on enclosed inquiry slip

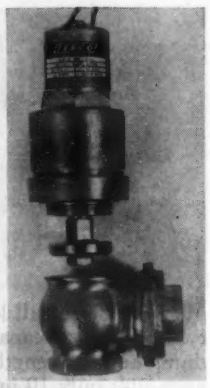


Drill Press Tooling
Adjustable short-run drill jig
Self-centering air vise
Combination tapping/deburring tool
Lathe Tooling
Ball-turning tool for concave and convex radii
Quick-change tool holders for turret work on standard lathes
Surface Grinder Tooling
Jaws for holding non-magnetic material on magnetic chucks
Milling Machine Tooling
Vise with automatically contouring jaws for any odd shape work
Inspection Tools
Thread Triangles for simplified measuring of pitch diameter

MONTGOMERY & CO. • 415 Morris Ave. • Springfield, N. J. • DRexel 6-4767

For more details circle NED-252 L on enclosed inquiry slip

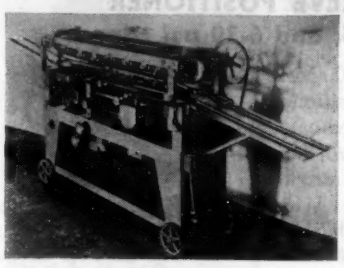
VALVE ADAPTERS
convert manual units to automatic



Functioning with present piping and valve bodies, this valve adapter converts manual process and control valves to automatic operation without disturbing piping. The valve stem and bonnet is merely removed, and an adapter is screwed into place. It is then linked by wiring (Model 28E) or hydraulic tubing (Model 28H) to an automatic switch or timer. Where more than one valve is involved, control is integrated in a multiple station controller which actuates each valve independently in its prescribed cycle. • **Febco, Inc.**, 1993 Blake Ave., Los Angeles 39, Calif.

For more details circle NED-254 L on enclosed inquiry slip

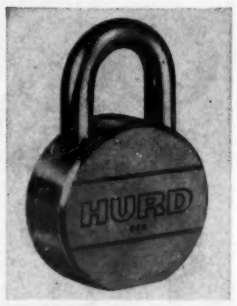
CAN & BOTTLE LABELER
handles up to 1000 per minute



Wrap around or spot labeling of cans and glass and aerosol containers is conducted at speeds up to 1000 units per minute on the Model CKMD labeler. Its stainless steel paste belt and paste pot are quickly removable for cleaning. Self-leveling main and auxiliary label beds automatically compensate for varying label thicknesses. Four models take containers with $1\frac{1}{2}$ to $6\frac{7}{8}$-in. diameters and from 1 15/16 to $8\frac{3}{4}$ in. high. Label sizes handled range from $1\frac{5}{8}$ x 4 3/16 in. to 8 7/16 x 22 1/16 in. • **Crompton & Knowles Packaging Corp.**, 200 Berkshire St., Holyoke, Mass.

For more details circle NED-255 L on enclosed inquiry slip

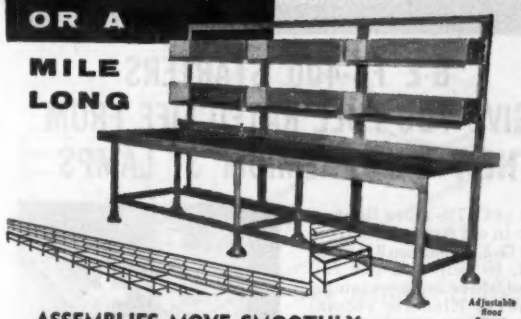
HEAVY DUTY PADLOCK
for top-security applications



Weighing $1\frac{1}{2}$ lb, precision drilled from a solid forged steel body, and having a 7/16-in. case-hardened heat-treated alloy steel shank, this Heavy-Weight padlock is reportedly shock, saw, and force proof. Solid steel balls are wedged tightly into both sides of shackle when locked. The five-pin tumbler brass lock cylinder, dead-bolt construction, and triple plating are further advantages. Price is $4.95. • **Hurd Lock & Mfg. Co.**, Almont, Mich.

For more details circle NED-256 L on enclosed inquiry slip

THREE FEET OR A MILE LONG — The Ver-T-Bench



ASSEMBLIES MOVE SMOOTHLY WITH VER-T-BENCH UNITS

A truly DeLuxe assembly unit.

Many Advantages of Ver-T-Bench Units

More working area and assembly space
More storage space for finished work

Saves Man Hours • Saves Floor Space

No more clogged aisles No more littered tables
Write today for Descriptive Literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

For more details circle NED-257 L on enclosed inquiry slip

NOW Low Cost, Automatic Reproduction of Engineering Drawings . . . from Microfilm

XEROX® COPYFLO® 1824 PRINTER

Makes the savings of a unitized microfilm system possible in small or decentralized engineering departments

Now, you can get a ready-to-use engineering print . . . in seconds and *on ordinary cut-sheet paper* . . . from a microfilm aperture card.

The XeroX® Copyflo® 1824 printer makes 18" x 24" prints, or smaller, at an extremely low cost. Also reproduces on vellum or offset paper masters. Operation is automatic. Prints emerge dry, ready for immediate use, as fast as four a minute.

And the quality of reproduction is excellent. The image is sharp black-on-white and won't rub off. There is no odor, no waste, and the paper may be written on with pencil or pen.

Thus, regardless of your engineering-drawing-reproduction volume, you can now enjoy the tremendous savings in time, money, space, and materials of a unitized microfilm system.

Formerly, such economies . . . from $20,000 to $100,000 annually . . . required a substantial reproduction need to make the system feasible.

Today, however, the Copyflo 1824 printer brings the same proportionate benefits to small-volume users as to large. No need now for vast files of engineering drawings. Microfilm aperture cards take only a fraction of the storage space required for other reproducibles. No more costly waiting for prints. And prints made by a Copyflo 1824 printer are so inexpensive, your engineers can discard them after use.

SIMPLE AS A-B-C

A. Operator inserts microfilm aperture card. B. Next, operator inserts a sheet of ordinary paper or vellum, or an offset paper master. Insertion starts automatic printing and processing cycle. C. The first print is automatically delivered in 30 seconds, subsequent prints (of the same or different drawings) every 15 seconds.

Write today for 1824 booklet giving the full benefits you can expect from a Copyflo 1824 printer. HALOID XEROX INC., 60-215X Haloid St., Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd., London.

HALOID XEROX®

For more details circle NED-258 L on enclosed inquiry slip

GORTITE-WAY PROTECTION

FABRICATED TO ORDER and from the newest in oil-resistant neoprene-base materials this pliable, accordion type way-protection is a top money saver! There are no size limitations. No molds are required. Aluminum stiffeners may be added as required:

• GORTITE protects ways against chips, grit, scratching and marring...
• GORTITE reduces way-scrapping and down-time...
• GORTITE way-protection boosts over-all production and lengthens tool life...

Other user benefits, how-to-order forms and application data for all ways, spindles and cross-rails are contained in new bulletin GW-100. For bellows, boots and sleeves ask for AH-3. A&A MFG. COMPANY INC., 712 S. 12th St., Milwaukee 4, Wis.

For more details circle NED-253 L on enclosed inquiry slip

Hints on fluorescent starter selection

G-E FS-400 STARTERS GIVE YOU FULL RATED LIFE FROM NEW G-E "PREMIUM 3" LAMPS

You get 17% more light — even in old fixtures — from new G-E Premium 3 lamps! And, to help you get full rated life from these lamps, General Electric recommends that *only* G-E FS-400 Watchdog* Starters be used. They protect lamp life by preventing "instant starts" before cathodes are properly pre-heated.

Ask your General Electric distributor for the "G-E" Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

*Registered Trade-mark of General Electric Company

GENERAL ELECTRIC

▲ For more details circle NED-259 L on enclosed inquiry slip ▲

compact, space-saving and easily installed

Wherever space is at a premium, Airmatic Miniature Air Cylinders are today's number one selection for aiding in dependable, maintenance-free automation.

For activating electrical contacts in test jigs and fixtures—as miniature air vices—in automatic work for feeding, ejecting, soldering and many other applications. In fact, applications are limited only by the ingenuity of industry's design and production engineers.

Shown here, for example, is Airmatic No. C-1125 mounted on the gravity feed chute of a vibrating parts feeder.

The complete miniature line (with bores of ⅜", ½", ¾", 1", 1⅛", 1½" and 2") are designed with thick brass tube walls.

Airmatic products lead the field in quality, delivery, price! Get your copy of "Airmatic Cylinders for Automation", Bulletin 91017, today.

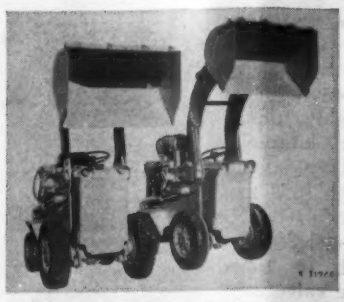
AX-24

AIRMATIC VALVE INC.
7313 Associate Ave., Cleveland 9, Ohio

Phone: WOodbine 1-5320 ● Western Union: Airmatic Valve, Inc., FAX, Cleveland, Ohio

▲ For more details circle NED-260 L on enclosed inquiry slip ▲

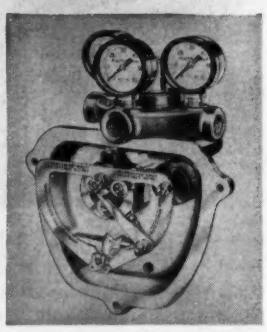
TRACTOR SHOVEL has 7-ft 2-in. dumping clearance



Dumping of bulk materials into elevated equipment such as high bed trucks, sand mullers, and bins is possible with the Y-18 tractor shovel. It has a dumping clearance of 7 ft 2 in., an increase of 14 in. over standard models. Machine has a full load, 45-degree bucket tip-back carrying position, capacity of 1600 lb, and a 43-degree dump angle. Lengthening to achieve high dump clearance adds only 10 in. to the turning radius. Maximum reach is 42 in. with the bucket at a height of 53 in. Buckets with 12 to 27-cu ft capacities are available. ● Yale & Towne Mfg. Co., Yale Materials Handling Div., 11000 Roosevelt Blvd., Philadelphia 15, Pa.

▲ For more details circle NED-261 L on enclosed inquiry slip ▲

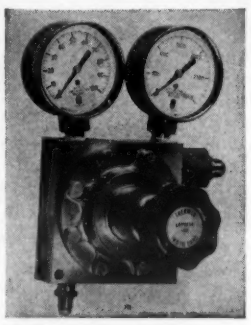
PNEUMATIC VALVE POSITIONER in 3-15, 5-25, and 6-30 psi ranges



Improved Type 3560 V/P pneumatic valve positioner employs a characterized cam, pneumatic relay, control bellows, beam, and a nozzle-flapper arrangement. Various cams are available for different control valve characteristics. Unit can be reversed without additional parts by moving flapper arm from one beam quadrant to the other. Positioner range springs are available for standard 3 to 15, 5 to 25, and 6 to 30-psi pressure ranges. ● Fisher Governor Co., Box 307, Marshalltown, Iowa.

▲ For more details circle NED-262 L on enclosed inquiry slip ▲

DUCTILITY TESTER for foil and thin metal sheet



Five gage calibrations from 200 to 2000 lb are available in the Model TSD ductility testing machine for thin sheet metal and foil. Work ranging from 0.002 to 0.020 in. thick is quickly and accurately checked on an experimental or production basis. Gripping pressure and test piston movement may be adjusted to different levels independently of each other to fit the test conditions. ● Detroit Testing Machine Co., 9390 Grinnell Ave., Detroit 13, Mich.

▲ For more details circle NED-263 L on enclosed inquiry slip ▲

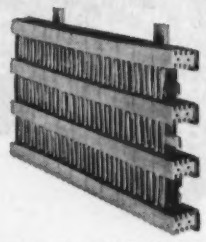
REDUCE HEATING PROCESS COSTS

THE HEATING ELEMENT MAKES THE DIFFERENCE!
Continuous "Folded and Formed" ribbon type element gives *up to 4 times more radiating area* per given cross section than any other type—assures more uniform heat at lower cost! Let TRENT ENGINEERS study your needs and determine the type of oven best suited for your use.

ONLY TRENT CUBIC OVEN DESIGN offers quality features at lowest cost

- Controlled Temperatures to 1200°F.
- Forced Air Re-circulation—Direct or Indirect Drive Fan
- Mineral or Glass Wool Insulation
- Steel Inner and Outer Casing
- Hinged Door with Explosion Release Latch
- 1 to 96 cubic foot Size Range
- Wide Selection of Optional Features
- TRENT "Folded and Formed" Electric Heating Element

WRITE FOR BULLETIN 71-TG



TREN INC.
Electrically Heated Industrial Equipment

251 Leverington Ave., Philadelphia 27, Pa.
In Canada
Pioneer Electric Eastern Ltd., Toronto

▲ For more details circle NED-264 L on enclosed inquiry slip ▲

NEW! LIFE GUARD RULE

Pat. Pending

yellow blade clad in miracle MYLAR*

*DuPont trademark for its polyester film

- **Outlasts other blades 3 to 1**
- **Acid-proof, wear-resistant!**
- **Yellow for maximum visibility!**

MYLAR*—the amazing new miracle plastic—covers every inch of Stanley's new LIFE GUARD rule blades, lifeguards against wear, safeguards against most solvents, oil, alkalies, acids. Black-on-yellow, this new blade is far easier to read, too. Ask your industrial distributor about these tough, durable rules today.

FREE . . . test it yourself! Write for 6-in. LIFE GUARD rule blade with our compliments. Just send us your name and address on your company letterhead. Mail to:

STANLEY TOOLS
Div. of The Stanley Works
5811 Elm Street
New Britain, Conn.

STANLEY

▲ For more details circle NED-265 L on enclosed inquiry slip ▲

For long-lived high performance, get

GAST ROTARY AIR PUMPS

Here's the broad Gast Line of Air Compressors. Vacuum Pumps, too, are made in all these models. Capacities from .6 to 45 cfm., pressures to 30 psi., vacuum to 28" Hg. Rotary-vane design is simple, efficient, dependable. Positive, pulseless air delivery—no tank needed. For plant use or O.E.M., *get Gast quality!*

Write for Gast Catalog; describe your specific needs.

GAST MANUFACTURING CORP., P.O. Box 117-R
Benton Harbor, Michigan

See Catalog in Sweet's Design File

GAST ROTARY

- AIR MOTORS TO 7 H.P.
- COMPRESSORS TO 30 P.S.I.
- VACUUM PUMPS TO 28 IN.

"Air may be your answer!"

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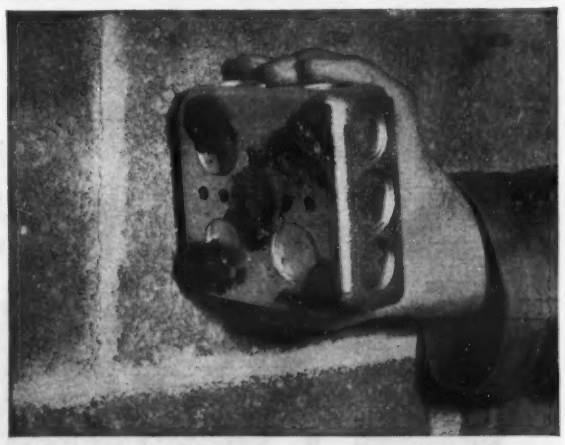


New Permacel Junction Box Mount epoxy adhesive

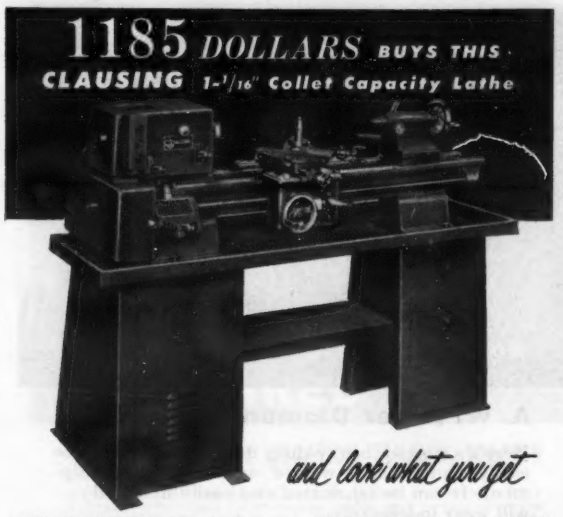
. . . the fast, easy way to attach junction boxes to any surface

PERMACEL

NEW BRUNSWICK, NEW JERSEY
TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

▲ For more details circle NED-267 L on enclosed inquiry slip ▲

1185 DOLLARS BUYS THIS CLAUSING 1-1/16" Collet Capacity Lathe



and look what you get

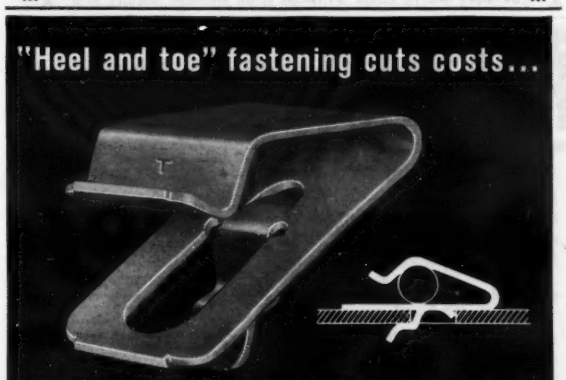
- VERIFIED ACCURACY — guaranteed by 16 precision tests documented for you in reports accompanying each lathe.
- FLAME HARDENED BED WAYS—"accuracy protection" which costs many dollars more on other lathes.
- BIG FORGED SPINDLE—1 3/8" bore, 1 1/8" collet capacity.
- "ZERO PRECISION" TIMKEN SPINDLE BEARINGS.
- SHAVED GEARS—another CLAUSING "exclusive" assuring greater accuracy and smoothness.
- BIG CAPACITY—No. 5418 (illustrated) has 12 3/4" swing, 23" between centers, 10-speed ball bearing countershaft. Takes up to 1 1/2 HP motor, extra. *Also available with 35" ad 48 1/2" centers, and with variable speed drive, clutch and brake, L-00 spindle.*

These, and other features—plus low initial investment—make the Clausing the greatest value in lathe history! Write today for full information.

CLAUSING DIVISION OF ATLAS PRESS COMPANY — OUTSTANDING VALUES IN PRECISION MACHINES — 11-115 N. PITCHER STREET, KALAMAZOO, MICHIGAN

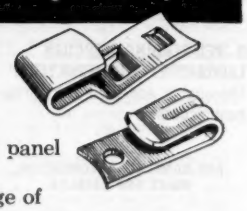
For more details circle NED-268 L on enclosed inquiry slip

"Heel and toe" fastening cuts costs...



Tinnerman SPEED CLIPS®
hold wire, cable or tubing securely!

- One-piece, spring steel, vibration proof
- Exclusive "heel and toe" fastening feature
- Easy to mount in center panel holes or blind locations
- Available for a wide range of panel thicknesses



Write for free descriptive literature

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

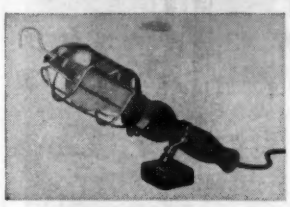
For more details circle NED-269 L on enclosed inquiry slip

TRAILING-TYPE MOWER
offset 27 in. for work around trees

Designed for older tractors using pin-type hitches, this Hammer-Knife grass mower is available in 5 x 6-ft models for center drawn or offset use. The 27-in. offset facilitates mowing under trees, and around posts and other obstructions. Cutting height can be crank-adjusted from 3/4 to 8 in. Free-swinging, lightweight blades exert enough force to cut grass and large weeds, yet retract when striking solid objects. Unit will accept an industry standard remote control hydraulic cylinder. Models are also available for 3-Point Hitch, Snap Coupler, and Fast Hitch mounting. • Mott Corp., 4015 Eberly, Brookfield, Ill.

For more details circle NED-271 L on enclosed inquiry slip

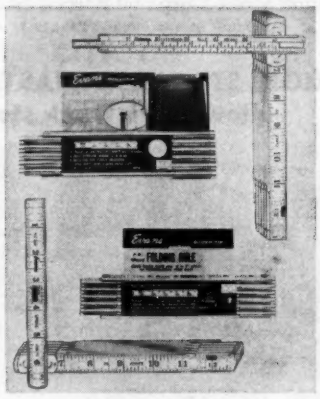
MAGNETIC LAMP HOLDER
has adjustable ball swivel clamp



Most types of trouble lights, as well as spot or flood lights and heat lamps, can be held by the Versa-Magnet, a lamp holding device which has an Alnico V magnet with 45-lb holding pull. The magnet is cast in an impervious epoxy resin. An adjustable ball swivel clamp holds and directs the light where needed. Price is $3.50. • Standard Portable Cord Co., Box 141, Mayville, N. Y.

For more details circle NED-272 L on enclosed inquiry slip

FOLDING RULES
regular and flat-reading models



Inch and foot markings, plus stud markings on 16-in. centers, are on the entire length of two 6-ft wood rules, the Gold Tip extension rule with a boxwood finish and the Silver Tip rule with triple-dipped white finish. Both have graduated solid brass tips in rock maple end sticks to prevent splitting. An abrasion resistant finish assures long legibility. Machine graduated extension slide on the Gold Tip model is marked horizontally on the face and vertically on the back, making it useful as a depth gage. Line includes regular and flat-reading models. • Evans Rule Co., 400-10 Trumbull St., Elizabeth 1, N. J.

For more details circle NED-273 L on enclosed inquiry slip

SAVE ...use plant personnel

to install your own overhead conveyor systems with R-W "Zig-Zag" CONTINUOUS POWERED CONVEYORS

It's easy—much like "building with blocks." Just take so many standard R-W "Zig-Zag" components and put them together into a *custom* conveyor system to meet your exact needs. *It's economical*—for R-W "Zig-Zag" conveyors can be "self-assembled" and installed by your own plant personnel. "Zig-Zag" systems may be easily expanded, modified or relocated at a later date . . . they are economical to purchase, install or maintain. Easily installed in any plant—large or small. Write today . . . request Catalog A-93R.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILL. • Branches in Principal Cities

For more details circle NED-274 L on enclosed inquiry slip

Problem: Premature rim separation

Solution: Monarch solids made by new Monolok process

HERE'S PROOF OF SUPERIOR PERFORMANCE!

CASE #27

Cement Block Plant

Problem: Standard solids and special urethane tires were failing in up to three months time due to rim separation.

Condition: Tires were run on edges in an autoclave under excessive heat and usually in an overloaded condition.

Test Results: Monolok bonded tires were still in service after five months and are still running.

CASE #44

Stevedoring Company

Problem: Tires were separating from rim after six months use.

Condition: Standard solids were exposed to severe punishment by driving trucks at full speed over railroad spurs and dock board corners.

Test Results: Monolok treated tires lasted up to nine months — 50% increased life.

10010-MR

CASE #56

Machine Shop

Problem: Tires were separating from rim after two to four months use.

Condition: Tires were exposed to floors littered with steel chips and shavings.

Test Results: Tires, although riddled with steel, ran eight to twelve months before being replaced.

If metal scrap, chemicals or excessive heat are the cause of premature rim separation in your plant let these facts speak for themselves. Now you can reduce replacement costs, truck downtime and driving hazards. Monarch engineers have solved the problem of separation by combining an improved natural rubber stock . . . compound T-5100 . . . with an advanced chemical bonding operation. Insist on Monarch MONOLOK.

THE MONARCH RUBBER COMPANY
260 Lincoln Park
Hartville, Ohio

• 7-225 General Motors Bldg. Detroit, Mich.
• 2353 No. California Ave., Chicago, Ill.
• Western Warehouse, Reno, Nevada

For more details circle NED-275 L on enclosed inquiry slip

THE NEW MILLER ALL-IN-ONE SPOT WELDER for ALL NUMBER ONE WELDS

LECTRO SPOT

Built-in Timer Turns the Trick

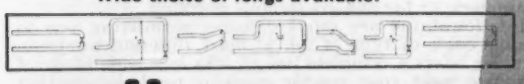
Sheet metal shops ready for new speed, economy and completely uniform spot welds will want the new Lectro Spot. Here's why:

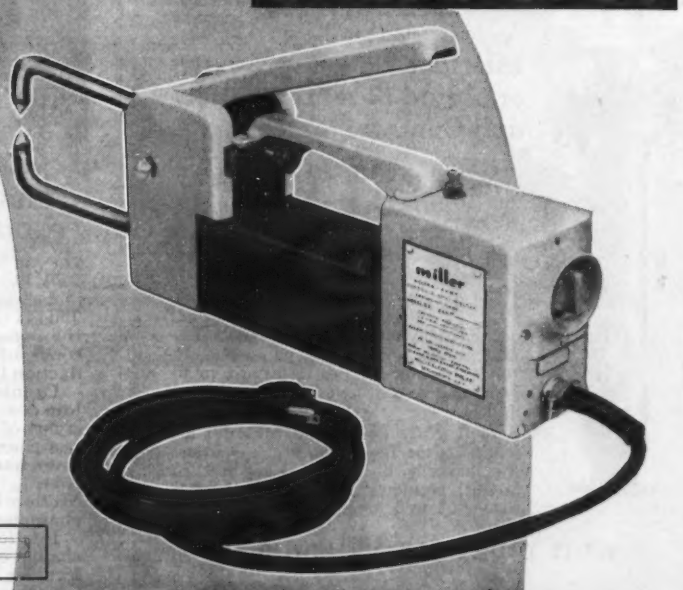
Operator depresses lever and,
1 — 2 — 3:
Tongs grip work at pre-set pressure;
Starter switch is actuated;
Weld sequence starts and stops automatically;
Result: EVERY WELD IS IDENTICAL!

Pressure adjustment and electronic timer controls instantly accessible.

Three models in 115 or 230 volts weld mild steel of 1/8" to 3/16" combined thickness; 1.5 KVA weighs 29 lbs., 2.5 KVA weighs 39 lbs.

Wide choice of tongs available.





Complete information sent promptly.

miller ELECTRIC MANUFACTURING COMPANY, INC. Appleton • Wisconsin

Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

For more details circle NED-270 L on enclosed inquiry slip

CHART-PAK

YOU CAN REALLY "BAT OUT" DRAWINGS WITH CHART-PAK TAPE!

Chart-Pak tapes save you hours of drawing drudgery. You don't ink-in lines, bars, shapes and symbols. You *tape* them in! Fast! For corrections, you just peel them off and replace. Chart-Pak materials don't come off by themselves, even in repeated trips through hot reproduction machines. Yet, they peel off slick and quick when you want them to. *Write for free folder* "Visualization Made Easier" — It helps you take the drudgery out of drafting.

DON'T DRAW IT . . .

TAPE IT WITH

CHART-PAK

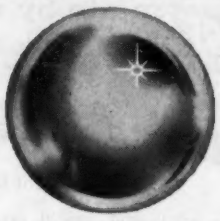
121 RIVER ROAD, LEEDS, MASS.

Dealers in all principal cities

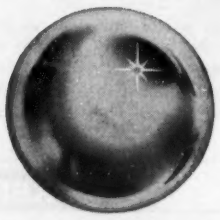
For more details circle NED-276 L on enclosed inquiry slip

HARTFORD'S

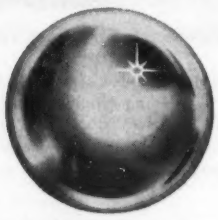
LOOK AHEAD POLICY



WITH PRECISION BALLS



PROVIDES MANY THINGS



IMPORTANT TO OUR CUSTOMERS

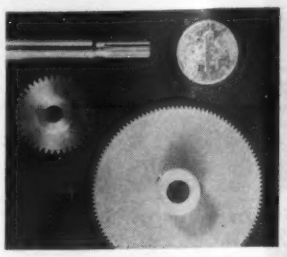
Hartford, blending an exacting science, long experience and modern facilities, manufactures precision balls to increasingly closer tolerances and finer surface finishes (less than .5 micro inch) to rigid customer specifications. Hartford offers a wide range of materials able to withstand increasingly high temperatures (over 1500°F), or severe corrosive conditions (including moisture, gases and acids) and unusual wear problems. A constant inventory of standard ball types assures immediate delivery on most orders. You can be sure of your source when you specify Hartford.

Specify Hartford PRECISION BALLS • BEARINGS

Hartford Steel Ball Company, 82 Jefferson Ave., West Hartford, Conn.

For more details circle NED-277 L on enclosed inquiry slip

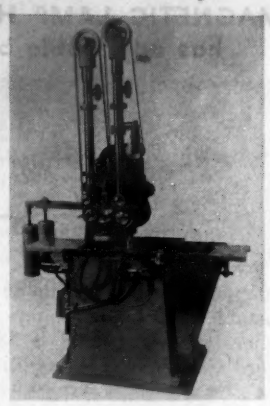
STOCK PRECISION GEARS for instruments, meters, controls



Selection of fine pitch precision spur gears ranging from 1/10 to 2¼-in. OD is offered for use in instruments, meters and controls, aircraft and missile components, computers, and similar electromechanical equipment. Certified to AGMA Precision Class 1 or better, gears range from 48 to 120 diametral pitch, with 10 to 40 teeth in stainless steel, and 42 to 180 teeth in aluminum. • **Boston Gear Works**, Hayward Street, Quincy 71, Mass.

For more details circle NED-278 L on enclosed inquiry slip

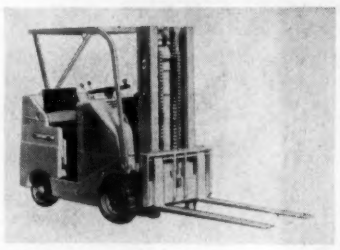
ABRASIVE BELT GRINDER rough and finish grinds in one cycle



Maximum workpiece size accommodated by the Loungway double-spindle rise and fall abrasive belt grinder is 4 x 6 in. Small pieces can be ganged for multiple grinding in a workholding jig. Machine will rough grind and finish grind contours and form parts in one automatic cycle in a few seconds. Workpieces travel on a table operated by air motor and hydraulic check units. An air powered cam rapidly indexes the table to each grinding position. Each spindle is adjustable by using different drive pulleys to obtain the proper speed for grinding, finishing, or buffing. • **Eastern Machine Screw Corp.**, 60 Barclay St., New Haven 6, Conn.

For more details circle NED-279 L on enclosed inquiry slip

HIGH STACKING MAST allows fork truck stacking to 12 ft



Having an over-all lowered height of 71 in., the Triple Lift Mast shown mounted on Van Stack Model 440 fork truck will stack heavy loads to 12-ft height. The nested type mast, with one stationary and two sliding members, allows excellent load and road visibility. It is available as optional equipment on 13 Towmotor fork trucks in the Van Stack, Pace-Maker, and Stream-Liner series and allows full utilization of both high and low storage areas. • **Towmotor Corp.**, 1226 E. 152nd St., Cleveland 10, Ohio.

For more details circle NED-280 L on enclosed inquiry slip

ACCURATE, SENSITIVE, LIQUID LEVEL CONTROL

For Interface, Specific Gravity or Liquid Level Indication and Control Problems

FISHER TYPE 2500-2502

Basic simplicity plus friction-free operation accounts for the popularity of the pneumatically operated Fisher 2500 Level-Trol. Proportional band adjustment to 100%. Suitable for 3 to 15 psi or 6 to 30 psi output ranges. Can be easily reversed in field.

Type 2502 Level-Trol includes all features of the Type 2500, plus reset action. Automatically brings set point back to original position. Reset rate is adjustable from .005 to 1 minute per repeat.

WRITE TODAY FOR BULLETIN F-4A

IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD... CHANCES ARE IT'S CONTROLLED BY...

FISHER GOVERNOR COMPANY

Marshalltown, Iowa / Woodstock, Ontario / Rochester, England

BUTTERFLY VALVE DIVISION: CONTINENTAL EQUIP. CO., CORAOPOLIS, PA.

FISHER Controls SINCE 1880

For more details circle NED-281 L on enclosed inquiry slip

A. W. Super Diamond floor plate

Here's a rugged, heavy-duty floor plate that can be easily and quickly welded with ordinary equipment. It can be fabricated and easily matched . . . will wear indefinitely.

Super Diamond has many benefits: available nationwide from warehouses . . . easily swept, hosed or mopped, from any direction . . . safe, non-skid footing.

For easy fabrication . . . for long wear . . . for easy installation . . . specify A. W. Super Diamond. Write for Bulletin SD-S11.

ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

Also manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle NED-282 L on enclosed inquiry slip

PALMER

A GREAT NAME IN THERMOMETERS

Mercury Actuated Temperature Indicating Instruments

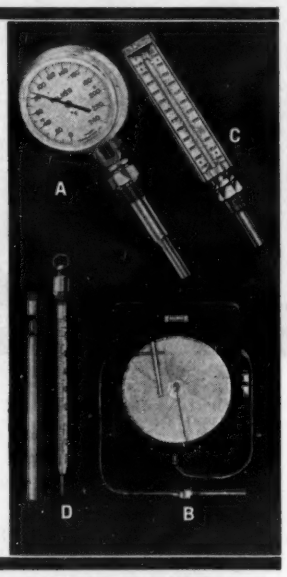
A–4½" DIAL THERMOMETERS: Made in 3 types to suit any requirements. Rigid stem, wall or flush mounted.

B–RECORDING THERMOMETERS: Twelve inch die-cast aluminum case with black finish. Single or multiple pen construction.

C–INDUSTRIAL THERMOMETERS: Red-Reading Mercury, Extruded brass case, chrome finish. Ranges —40° +950° or Equivalent in °C.

D–RED-READING MERCURY LABORATORY THERMOMETERS: Thoroughly annealed for permanent accuracy.

FOR COMPLETE INFORMATION WRITE FOR CATALOG



PALMER

PALMER THERMOMETERS, INC.

Cincinnati 12, Ohio

MElrose 1-1500

For more details circle NED-283 L on enclosed inquiry slip

PANNIER SINGLE WHEEL CODE PRINTERS MARK YOUR PRODUCTS *Quickly . . Clearly*

Do you have a product that's hard to mark? The concrete walk blocks shown here are being marked quickly, easily and clearly with a Pannier Single Wheel Code Printer. This is only one of many marking problems solved with the versatile Pannier Wheel Printer. Equipped with a conveyor-type mounting, it can be adapted to your production line.

Pannier Single Wheel Code Printers have an ink fountain designed for longer runs without re-inking. Different styles of wheels are available to accommodate E-Z Set fast-change type, rubber printing dies and logo-types or interchangeable Dovetail Rubber Type in character sizes from 1/16" up. These printers are available with or without friction bands to aid printing flat surfaces with small characters, or for non-continuous marking.

Ink fountains are quick-change, permitting you to change color or type of ink to mark different products. Pannier offers a complete line of inks in a wide range of colors to meet your specific marking need. For further information, write:

PANNIER MASTER MARKERS

301 Pannier Bldg., Pittsburgh 12, Pa.

For more details circle NED-284 L on enclosed inquiry slip

WITHSTANDS SEVERE VIBRATION, TENSION, TORSION

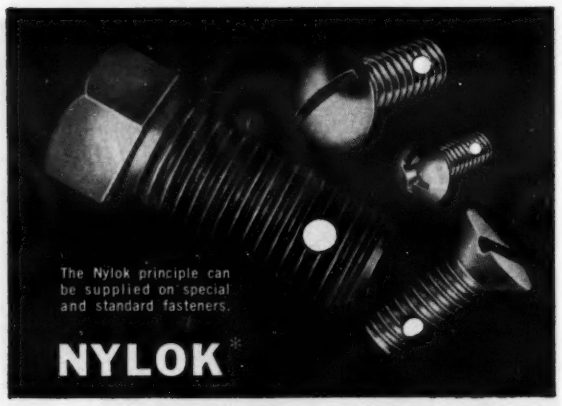
Lok-Thred fasteners, widely used on engines and motors, have a larger thread root diameter and wider root surface than the Unified National screw thread. When assembled into a standard American National tapped hole, the Lok-Thred re-forms the female thread to the shape of the entering thread. This produces the equivalent of a perfect selective fit and places the metal of the female thread under high compressive pre-stress.

Thus the Lok-Thred design provides constant locking and sealing action, increased strength in tension and torsion, higher fatigue limits than any conventional threaded part. In addition, Lok-Thred eliminates added bosses and blind tapping, acts as a dowel or taper pin, is fully reusable with equal effectiveness. Write for engineering data.

*Patented

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-285 L** on enclosed inquiry slip ▲



LOCK...SEAL...ADJUST

Locking action is produced by a tough nylon pellet embedded in the fastener body. The pellet projects slightly beyond the thread crest, compresses to set up a counter-force and strong metal-to-metal engagement of threads opposite the pellet. Locking action is *sustained*, takes place whether or not the fastener is seated.

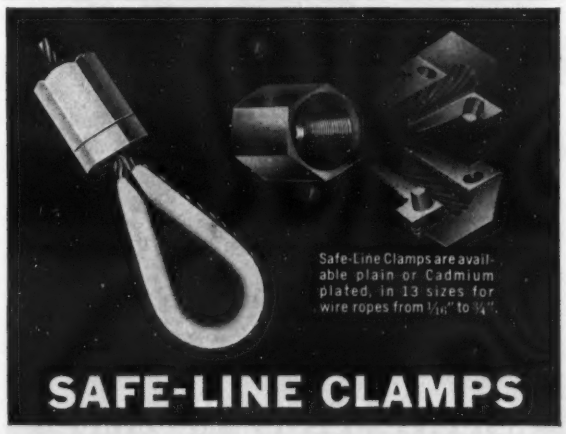
Sealing action is effective, even at elevated temperatures and pressures. The nylon pellet acts as a dam, prevents fluid from entering the gap between non-load-bearing flanks. Nylok fasteners will seal, seated or unseated.

Since the nylon pellet that locks Nylok fasteners is effective seated or unseated, Nyloks make excellent adjustment nuts and screws. Both male and female fasteners stay where you want them, yet adjustments can be easily changed. Write for engineering data.

*Patented

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-286 L** on enclosed inquiry slip ▲



REDUCE ASSEMBLY COSTS

Safe-Line Clamps reduce costs without sacrificing reliability, since only one is needed in place of four or more common clips.

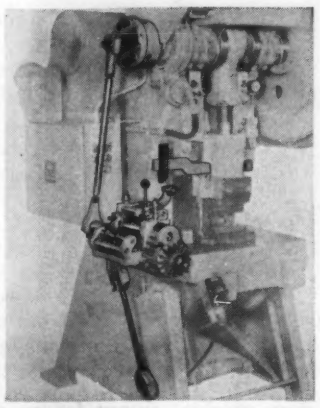
When the nut is tightened, holding contact is complete and firm the full length of the clamp. The clamp's elastic gripping action adjusts to rope "creeping" or changes in stress. And it's fully reusable.

Simple design permits rapid assembly—by vise and wrench on the job, or assembly fixture for quantity production. Sharp wire ends are enclosed, projections are eliminated for safe assembly and disassembly, neat appearance. Write for engineering data.

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-287 L** on enclosed inquiry slip ▲

ROLL FEEDS
14 sizes for punch presses



Designed to automate high speed punch presses, roll feeds mount directly on the press bolster to feed from either side, front or back. The complete, ready-to-install units are furnished with direct or compound geared drives, the latter for feeding longer than rated lengths. Fourteen sizes have maximum feed lengths from 2½ to 12 in. and handle stock widths from 4 to 12 in. High speed disc type brake is air cooled by means of fin-type housing. Roller or ball bearings are used on all rotating parts. • **Cooper Weymouth, Inc.**, 600 Honeyspot Rd., Stratford, Conn.

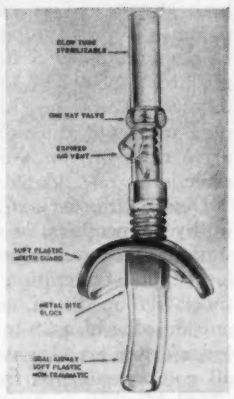
▲ For more details circle **NED-288 L** on enclosed inquiry slip ▲

COLD WEATHER WORK GLOVE
resists oil and water

Tuf Duk jersey gloves impregnated with a tough, nonslip vinyl give long wear and are suited for winter outdoor work, cold rooms, and refrigerated products handling. They provide a safe grip, are oil and water repellent, and retain their flexibility. The palm is heavily coated, and the back is lightly impregnated to resist scuffing but lets the fabric breathe. Knit wrist, slip-on, and safety cuff styles are made. • **Edmont, Inc.**, Walnut Street, Coshocton, Ohio.

▲ For more details circle **NED-289 L** on enclosed inquiry slip ▲

EMERGENCY RESUSCITATOR
avoids mouth-to-mouth contact



Direct artificial respiration without mouth-to-mouth contact is possible with the No. 1 Brook Airway resuscitator. Device has a nonreturn valve and expired air vent which prevent foreign material or exhaled air passing from victim's mouth to that of rescuer. Blowtube is removable for cleaning and sterilizing. Flexible neck permits immediate resuscitation in arkward position, and clear, pliable mouthguard seals the mouth, yet permits viewing the color of the lips. Price is $4.75. • **Ray-O-Vac Co.**, Willson Products Div., Second & Washington Streets, Reading, Pa.

▲ For more details circle **NED-290 L** on enclosed inquiry slip ▲

PUT HOLDING POWER INTO THIN, SOFT MATERIALS

Plug Nuts are hardened, threaded inserts designed to be pressed into ductile material. Once inserted, the Plug Nut becomes a self-clinching, pre-placed nut, improving fasteenability of thin or soft materials, such as steel, brass and aluminum. Plug Nuts are ideal for blind or hard-to-reach locations, and do not affect flatness of product material.

Plug Nuts are made for use in any thickness of material down to .030" and in any tap size from #4 to ¾". Available in case hardened steel, brass, various grades of stainless and aluminum in a full range of finishes. *Send for samples and application data.*

Distributors: Protected territories for the sale of Plug Nuts are available on a franchise basis

*Patented

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-292 L** on enclosed inquiry slip ▲

PROVIDE UP TO 33% MORE CLAMPING LOAD

At no increase in torque, Stovers will provide up to 33% more clamping load than comparable standard nuts and competitive locknuts. Or, get normal clamping load with 25% less tightening torque.

Stovers start freely, run up smoothly without galling or seizing. Locking action is sustained, loaded or unloaded. Repeated reassembly produces uniform clamping loads with the original assembly torque. And Stovers are field-tested—car and tractor makers alone used more than 80 million Stovers last year!

Styles: Automation, Flange, Jam (Thin), Finished Hex Collar, Heavy Hex Collar. Three grades: for low carbon, heat treated or alloy steel bolts. Stainless and non-ferrous on special order. Write for 16-page engineering brochure and samples. *Patented

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-293 L** on enclosed inquiry slip ▲

NEW STRUCTURAL BOLT

Lamson High Strength Bearing Bolt* has highest shear strength, greatest resistance to slip of all structural bolts . . . combines the tensile strength of a High Strength Bolt with the bearing of a rivet.

This new bolt offers decided advantages over High Strength Bolts (which we also manufacture)—yet it costs no more, size for size, when you take into account the cost of required washers.

The High Strength Bearing Bolt has already proved its superiority in critical applications, such as railroad bridges, ore processing machinery and heavy manufacturing mill buildings.

For detailed information, contact Lamson & Sessions or any U. S. Steel Supply Division Steel Service Center. Bulletin and samples on request. *Pat. App. for

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-291 L** on enclosed inquiry slip ▲

SCHRADER'S POWERFUL MINIATURE AIR CYLINDERS

Use them for light duty and gang-type applications . . . even tough applications requiring extra stamina and speed. Excellent for operating jigs and fixtures, transfer and special purpose machines.

Features: No tie rods . . . double acting . . . popular 1" bore . . . stroke sizes to 12". . . mount in any position.

Quality built-in: Cartridge type bronze bearing and piston rod seal . . . non-corrodible solid brass end plates with hexagonal flats and non-corrodible brass cylinder and pistons . . . ground and polished steel piston rod . . . molybdenum disulphide grease packing . . . self-adjusting synthetic rubber "U" cup piston seals.

Write for catalog insert with complete specifications and data.

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle NED-294 L on enclosed inquiry slip ▲

BOWSER

FLOW indicators

TELEFLOW INDICATOR

Mechanical and electrical flow indicators; single and double-window flow sights; window flow indicators; and a full line of sight-feed oilers for O.E.M., in-plant and mill or machine installations.

FLOW INDICATORS

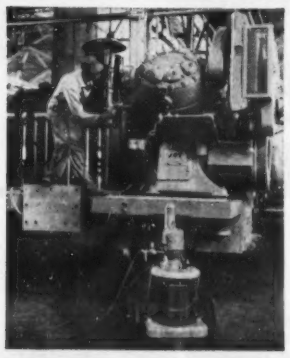
FLOW SIGHTS

FLOW INDICATING DEVICES

FREE FACTS BOOKLET

BOWSER, Inc. Fort Wayne, Ind.

▲ For more details circle NED-295 L on enclosed inquiry slip ▲



Now—

SPRAY PAINT IN ASSEMBLY AREAS . . . WITHOUT OVERSPRAY PROBLEM!

Speed-Up Finishing Work!

Hydra-Spray's elimination of overspray will help you lick the greatest problem in production finishing!

Now you can spray paint in assembly areas without dangerous overspray. Less masking is required and workers can usually work without face masks. What's more, you *save* paint too!

Check these points and see how AIRLESS Graco Hydra-Spray can help you production finish profitably.

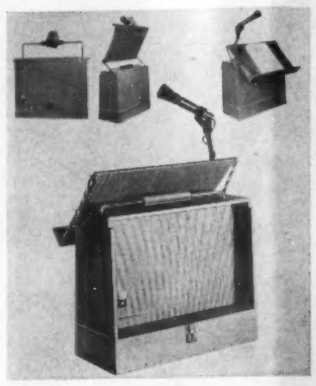
- Eliminates overspray and bounce back. Less masking and cleanup.
- Better coverage with *less waste.*
- Usually eliminates the need for worker face masks.
- Simplifies equipment needs.

FOR NEAREST GRACO SUPPLIER { **See Sweets Plant Engineering File or phone book Yellow Pages, "Spraying"**

GRACO / **GRAY COMPANY, INC.**
117 Graco Square
Minneapolis 13, Minnesota

▲ For more details circle NED-296 L on enclosed inquiry slip ▲

SELF-CONTAINED PA-SYSTEM
portable unit has its own lectern

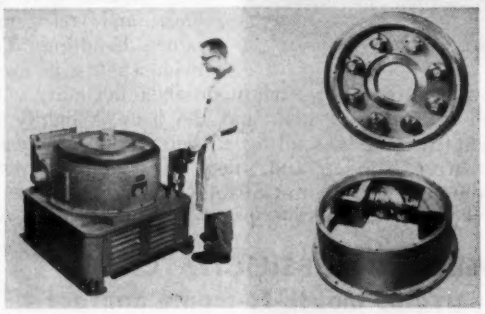


The Roving Rostrum, a portable self-contained public address system is enclosed in a lightweight luggage-type carrying case and is especially useful as a stand-by system. It is fully transistorized and is powered by two lantern batteries with a three-month average life. System includes a microphone with gooseneck stand, 10-w amplifier, 10-in. heavy duty speaker, output for an external speaker, a tape recorder output, and phono-microphone inputs. Unit measures 18 x 16 x 8½ in. and is priced at $149.95 less batteries. • **Kinematix, Inc.,** 1616 N. Damen Ave., Chicago 47, Ill.

▲ For more details circle NED-297 L on enclosed inquiry slip ▲

INDEX TABLE DRIVE
accelerates and decelerates high thrust and radial loads uniformly

Open center design cam index table drive is available with an integral gear speed reducer for use on table diameters ranging from 20 to 120 in. It is used where

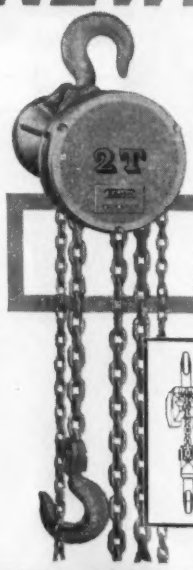


high thrust and/or radial loading conditions are experienced on trunnion and dial type automated machines, stationary center column machines, and special machine tools. The sealed Model I-X-10A drive has a follower plate thrust rating of over 31,000 lb and a tipping moment rating of 380,000 lb-in. The cam index drive rides on an X-bearing which takes loads in all directions.

Design affords a 7¾-in. diameter open center for utility connections, or an 8½-in. diameter opening for stationary center column machine applications. Uniform table acceleration and deceleration provides rapid, shock-free operation, accurate within ±0.003 in. at the outside edge of a 36-in. diameter table. Self-contained index drives are also available with a standard base and all components. • **Expert Automation Machine Co.,** 17144 Mt. Elliott Ave., Detroit 12, Mich.

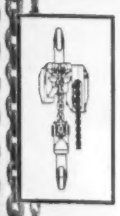
▲ For more details circle NED-298 L on enclosed inquiry slip ▲

NEW! SPUR GEAR HAND HOIST



Presenting . . . a new weight lifting champion . . . the THERN "Alu-Tuff" spur gear hand hoist. Combines exceptional lightness and handling ease with high strength. Rugged *aluminum alloy* frame and housing. All working parts *fully enclosed.* New patented noiseless load brake . . . assures faster, easier lowering, greater safety.

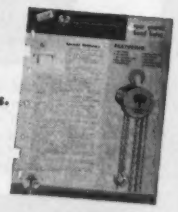
In 8 Models—Load Capacities from ½ Ton to 10-Tons
½-Ton Size W/10-ft. lift $125.00
3-Ton Size W/10-ft. lift $342.00



- **All models need only a light hand pull to raise full load**
- **Rounded chain entry . . . smooth action from any angle**
- **Fully enclosed hand wheel protects fingers**
- **Alloy steel gears, shafts and chains; forged hooks**
- **Fully guaranteed for rated load capacities**

Thern MACHINE CO. 3800 West 4th St. Winona, Minn.

Write for this fact sheet and low prices.



▲ For more details circle NED-299 L on enclosed inquiry slip ▲

Acragage®

Solid-Front Safety at Standard Price

Now manufactured by Robertshaw, Acragage offers pressure gages for every application, designed for extreme accuracy and complete safety. Solid front and blowout rear disc are standard, without extra cost.

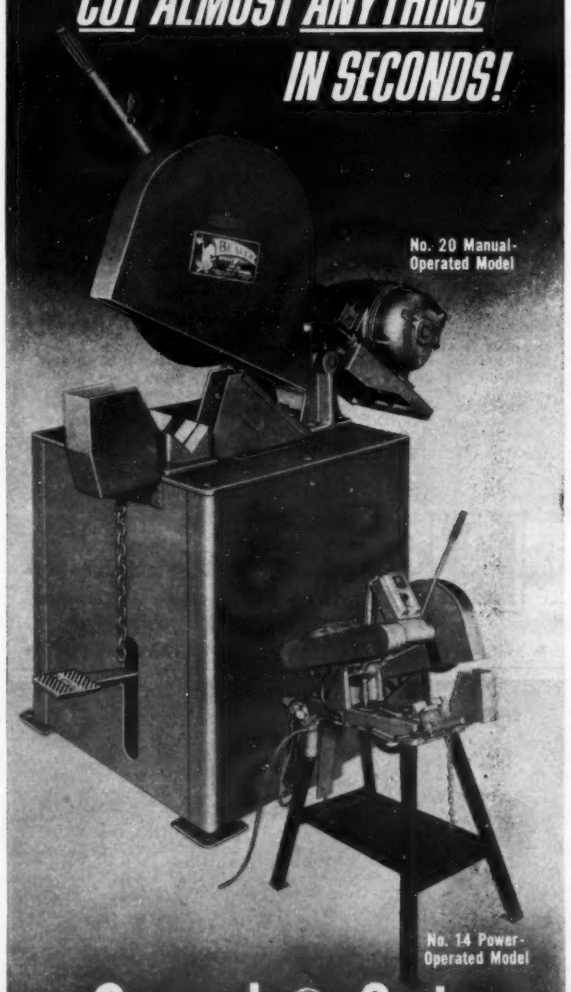
Stainless steel, machined gear movement; longer *bourdon* tube for greater sensitivity; mechanism readily accessible for calibration. *Write for Catalog G-VY.*

Robertshaw MR. CONTROLS
ROBERTSHAW-FULTON CONTROLS CO.

FULTON SYLPHON DIVISION • KNOXVILLE 1, TENN.

▲ For more details circle NED-300 L on enclosed inquiry slip ▲

CUT TIME! CUT COSTS! *CUT ALMOST ANYTHING IN SECONDS!*



Speed Cut
Abrasive Cutting Machines

MANUAL OR POWER-OPERATED MODELS FOR WET, DRY OR ANY-ANGLE CUTTING!

Speed Cut *Send for complete catalog and name of nearest distributor*

ABRASIVE MACHINE DIV.
BEAVER PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

▲ For more details circle NED-301 L on enclosed inquiry slip ▲

The Prest-O-Matic® Door takes the STOP out of "Stop and Go" traffic

Your fork truck driver simply pulls cord and goes through the opened door without stopping. The door opens and closes Prest-O-Matically in as little as 2 seconds. Multiply the time you save by the number of trips per day . . . per year.

Engineered to snug-fit your doorways, PREST-O-MATIC remains tightly closed when not in use. Neoprene Sealing stops drafts, eliminates heat or air-conditioning loss.

Complete in one easy to install unit. Bifold (shown) or Sliding. Before you buy any door, get all the facts on PREST-O-MATIC.

511 Hunterdon Street
Newark 8, New Jersey

▲ For more details circle NED-302 L on enclosed inquiry slip ▲

FOR FEWER TROUBLE CALLS

Dow Corning silicone lubricants have superior heat resistance . . . won't thin out, gum up or oxidize. They provide long-time lubrication even when bearing temperatures are as high as 400 F. Specify silicones wherever high temperature is a problem and "special" lubricants are required. Write today for FREE SAMPLE and literature. Dept. 5811a.

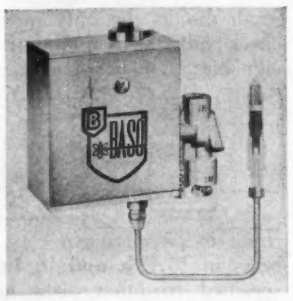
FREE SAMPLE

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

▲ For more details circle NED-303 L on enclosed inquiry slip ▲

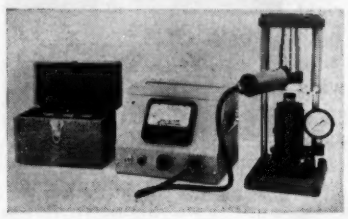
PILOT SWITCHES
powered by integral thermocouple



Designed for applications requiring fast response and generating their own electrical energy, Model W850 and W853 automatic pilot switches assure rapid shutoff of a complete control system. Energy is generated by a quick-acting, fast-cooling, high voltage semimetal thermocouple. Both models break the circuit to the main electric valve in 20 sec or less if the pilot light should be extinguished, and Model W853 also shuts off the pilot gas at the same time. Thermocouples are stocked in leads of 24, 30, 36, 48, and 60 in. • **Baso Inc.**, 730 N. Jackson St., Milwaukee 1, Wis.

▲ For more details circle NED-305 L on enclosed inquiry slip ▲

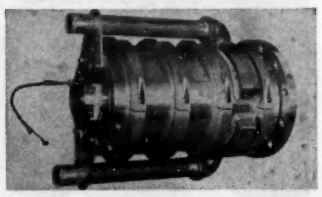
MOISTURE METER
makes one test per minute



Moisture tests are made on many granular, ground, powdered, loose, or shredded materials by the Model G-6 electronic moisture meter. No special skill is required to operate the meter which makes one test per minute with a practical accuracy to 0 per cent. It employs high hydraulic pressure to assure an homogenous sample and is calibrated for many materials. • **Moisture Register Co.**, Box 910, Alhambra, Calif.

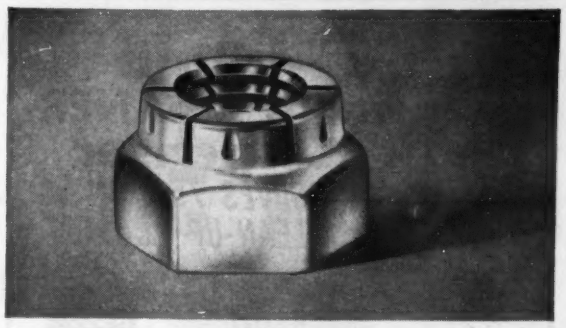
▲ For more details circle NED-306 L on enclosed inquiry slip ▲

ABSORPTION DYNAMOMETER
for measuring engine power output



When used with suitable power measurement equipment, this water brake type absorption dynamometer measures shaft horsepower of engines, turbines, and other rotating machinery. Brakes are available in seven basic models with maximum power absorption of from 1000 hp at 20,000 rpm to 8000 hp at 10,000 rpm. Units are supplied as complete packages and require attachment only to prime mover and water supply. Power measurement devices available include the Bytrex Series PT-100 nonrotating reaction torque meter, as well as a rotating torque shaft, combination torque arm and platform balance scale, a load beam, or temperature measurement system of heat rejection to water. • **Kahn & Co.**, Box 516, Hartford 1, Conn.

▲ For more details circle NED-307 L on enclosed inquiry slip ▲



Self-locking, vibration-proof FLEXLOC serves as locknut or stopnut

- Locks *without seating*—stays put wherever wrenching stops
- Holds tight despite impact, shock, vibration
- Simplifies design because it is one-piece—no auxiliary locking devices needed
- Can be readily removed, repeatedly reused
- Sizes #0-80 through 2"-4½
- In alloy steel, stainless steel, aluminum, brass

See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

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New Bausch & Lomb 3X Illuminated MAGNIFIER!

IDEALLY SUITED FOR QUALITY CONTROL ENGINEERING

The new 3X Illuminated Magnifier gives full three power magnification wherever detailed examination or inspection of small objects is needed. Brilliant illumination directly on the object being viewed and a wide field of view make this magnifier particularly versatile. Available in battery or 115V models, it weighs only 15 ounces. The all-metal housing measures 3¼" high; 3" wide; and 5" long. Either battery or 115V model $14.75.

Over 65 different types of readers and magnifiers are available to answer your every need. All feature lenses of the finest quality optical glass, ground and polished to curve. Be sure and specify Bausch & Lomb.

WRITE FOR *catalog No. 1-103 to Bausch & Lomb Incorporated, Rochester 2, New York*

BAUSCH & LOMB
SINCE 1853

Makers of: Balomatic Projectors • CinemaScope Lenses
Ray-Ban Sun Glasses • Binoculars • Microscopes
Quality Eyewear • Rifle Sights • Scientific Instruments

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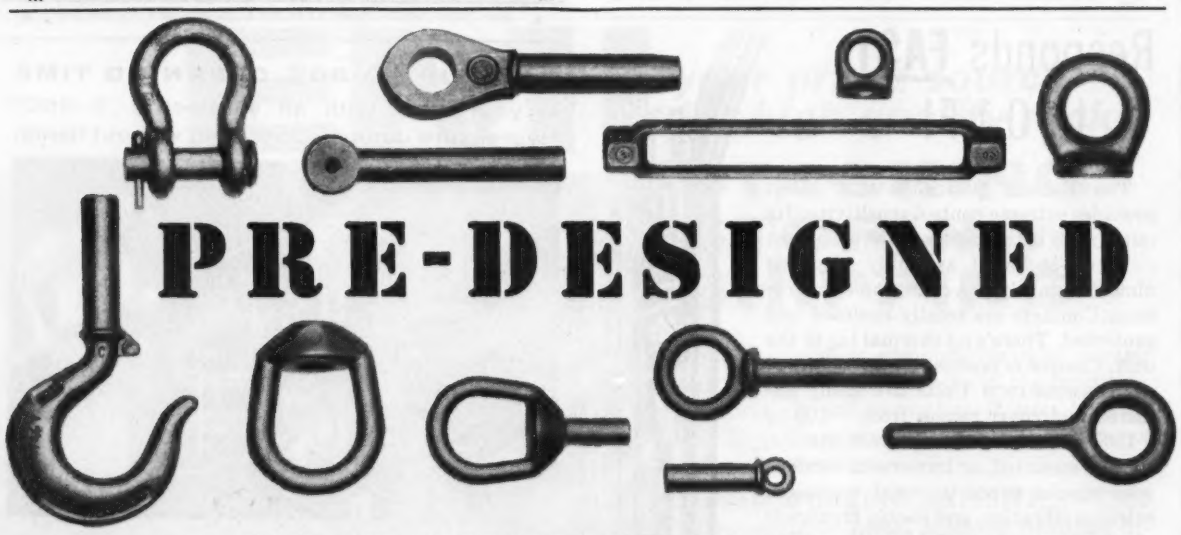
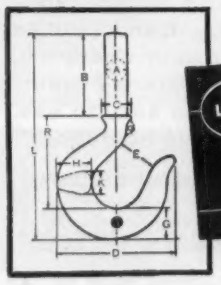


PRE-DESIGNED



FORGED FITTINGS READY FOR INSTALLATION
CONSISTENT QUALITY—NO REJECTS

Full line catalog with complete engineering data available from your distributor.

CROSBY-LAUGHLIN *Division*
FT. WAYNE, INDIANA

INDUSTRIAL DISTRIBUTORS SERVING INDUSTRY ECONOMICALLY THE RIGHT HAND OF PRODUCTION

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Go-Jo HAND CLEANER Dispenser

SAVES 75% ON "CLEAN-UP" COSTS!

Ends "Grab-a-handful" Waste!!

Portion measured out by the one-shot dispenser averages ¼ the "hand-scoop" quantity...ample for a thorough "clean-up."

Gets Even Grimiest Hands "Dinner-table" Clean in Just 30 Seconds!!

Removes deeply imbedded grease and grime. Easily wiped or rinsed off. No expensive and time-consuming second and third washings.

Helps Prevent Industrial Dermatitis!!

Contains GT-7, A POWERFUL ANTISEPTIC, that helps protect against dermatitis and other painful skin irritations - frequent causes of absenteeism.

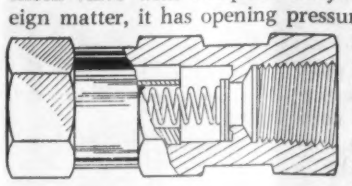
Write today for FREE folder or 30-day demonstration.

GOJER INC., Dept. N-110 BOX 991 AKRON 9, OHIO

▲ For more details circle NED-311 L on enclosed inquiry slip ▲

CHECK VALVE
burst pressure is 20,000 psi

Small disc is the only moving part in the 900 Series check valve with one-piece body. Unaffected by foreign matter, it has opening pressure of 2 to 8 psi. The



soft-surface disc provides dead tight sealing at all pressures in air, oil, and water service. Burst pressure is 20,000 psi. Valve is available in brass in ¼, ⅛, and ½ in. female type, and can be specified in other sizes and materials. The ¼-in. size sells for $3.75. • **Bodnar & McDermott Mfg. Co.,** 19 Beechwood Ave., Mt. Vernon, N. Y.

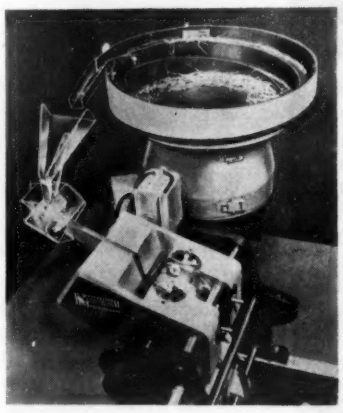
▲ For more details circle NED-313 L on enclosed inquiry slip ▲

PLASTIC GROMMET
supports wire, cable, or tubing

Two identical halves of the Snap-Lock grommet are inserted in a panel hole and snapped together, providing a rigid bearing surface with high dielectric strength. It supports and insulates wire, cable, or tubing from a mounting panel, chassis, wall, or housing, and at the same time affords chemical and wear resistance. Grommet is made of any color of plastic with 3/16, ¼, and ⅜-in. diameter holes. Panel hole required is ⅛-in. larger than grommet hole diameter. • **Budwig Mfg. Co.,** Box 4212, Glendale 2, Calif.

▲ For more details circle NED-314 L on enclosed inquiry slip ▲

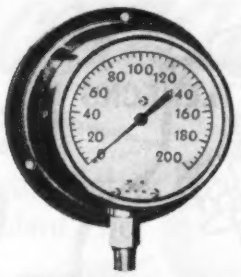
ELECTRONIC COMPONENT FEEDER
handles up to 3600 parts per hour



Equipped with a plastic hopper, this Bowl Feed unit employs controlled vibration to feed electronic components having axial leads at speeds to 3600 per hour. It facilitates handling, testing, and packaging of components when used in conjunction with company's lead straightening, testing, orienting, and taping equipment which will automatically straighten leads, check and correct for polarity, accept or reject, tape, and pack components on up to 16-in. diameter reels. • **Universal Instruments Corp.,** 139 E. Frederick St., Binghamton, N. Y.

▲ For more details circle NED-315 L on enclosed inquiry slip ▲

MARSHALLTOWN



The right gauge for your specific needs

MARSHALLTOWN GAUGES

A complete line of gauges in stock available for early delivery. Gauges from 10-inches water pressure to 30,000 P.S.I. to meet your specifications on any equipment.

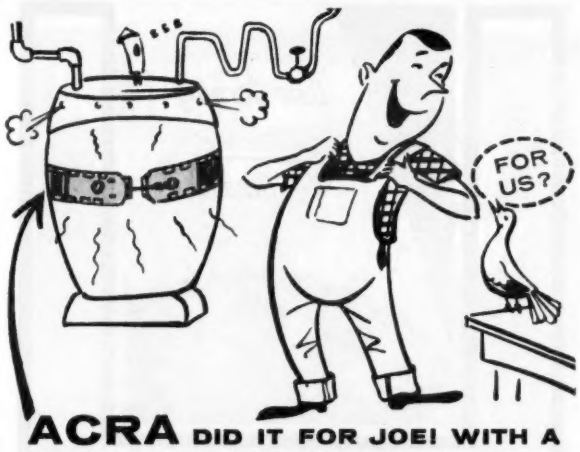
- Pressure
- Vacuum
- Compound
- Altitude
- Combination
- Diaphragm
- Hydraulic
- Special Purpose
- Dial Thermometer (Vapor Tension or Bi-Metal)

Gauges

Let Marshalltown answer your gauge problems ...write for information and prices.

MARSHALLTOWN MFG. CO.
MARSHALLTOWN, IOWA

▲ For more details circle NED-317 L on enclosed inquiry slip ▲



ACRA DID IT FOR JOE! WITH A WRAP-ON ELECTRIC BAND HEATER

Requires no hole in the tank. (Joe's has plenty already?) Heats it efficiently. Applies easily. Lasts forever. (well—) Your device is not like Joe's? 'Sno difference. If it's round, a Wrap-On Electric Band Heater may be your answer. If it's square, flat or pretzel shaped, some other type of ACRA Electric Heating Element will win the $64.00.

AND SAVED A $ IN COSTS

says Joe. Not much on 1 unit maybe, but percentagewise it's a lot. For those who use hundreds or thousands of heating elements, ACRA's gift for cutting costs through ingenuity in design and "know-how" in production can be downright important. Better look into this? For more information and real help too, contact—

ACRA ELECTRIC CORPORATION
9907 Pacific Ave., Franklin Park, Ill.

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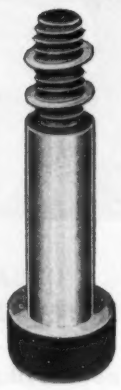
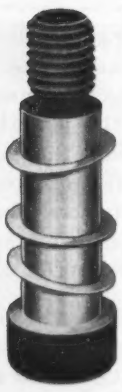
IT'S A FACT YOU CAN DO BETTER WITH THE BUILT-IN QUALITY OF DE-STA-CO

SHOULDER SCREW LENGTHENING AND SHORTENING SHIMS

DE-STA-CO lengthening and shortening shims, made of selected spring steel of correct hardness and temper to stand up under the heaviest stamping operations . . . will not break or mushroom.



ELIMINATE TRIAL-AND-ERROR METHODS



Close-tolerance inside and outside diameters, accurate thicknesses and smooth finish provide precise adjustments . . . handy for shimming jobs on all kinds of tools and machines.

FOR MORE FACTS

WRITE FOR COMPLETE BROCHURE AND PRICE LIST!

YOU CAN DEPEND ON DE-STA-CO

DETROIT STAMPING COMPANY
350 MIDLAND AVENUE
DETROIT 3, MICHIGAN

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Responds FAST to 0.1°F!

The Fenwal THERMOSWITCH® Unit provides extreme control sensitivity. Its outer shell is the heat-sensitive element . . . strut-and-shell assembly responds almost instantly to a change in temperature. Contacts are totally enclosed and protected. There's no thermal lag in the unit. *Control is positive and precise.*

THERMOSWITCH Units are easily adjusted and cover ranges from −100 to +1500°F. They're available in miniature, surface-mounted, or immersion versions with special types to resist corrosion, extreme vibration, and shock. Hundreds of variations are available with current ratings up to 10A-115VAC. These rugged, compact units provide reliable inexpensive control for process or product. Write now for illustrated booklet. Fenwal Incorporated, 2711 Pleasant Street, Ashland, Massachusetts.

Fenwal Controls Temperature . . . *Precisely*

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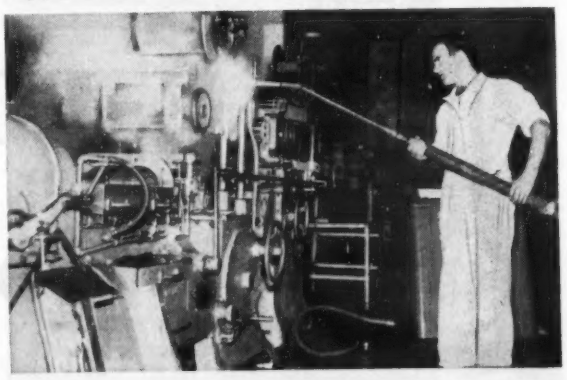
SAVE UP TO 80% CLEANING TIME in your plant with an all-electric "E-350" Hypressure Jenny®. Operating without flame,



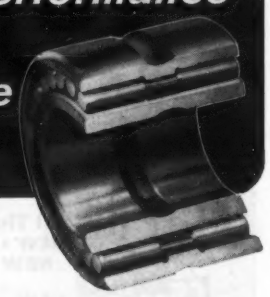
fumes, or excessive fog, this tough, cost-cutting unit enables you to clean and sanitize equipment, even when plant is in operation, without annoyance to workers. Starts instantly; operates quietly; simple and easy to use. Full details? Write or check item number.

hv HOMESTEAD VALVE MANUFACTURING COMPANY

Hypressure Jenny Division, Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd., 517 Jarvis Street, Toronto 5, Ont. C.S.A. Approved)

▲ For more details circle NED-319 L on enclosed inquiry slip ▲

To simplify design for precision performance in limited radial space



Use McGill GUIDEROL® bearings

You can simplify your bearing housing requirements by applying the heavier load capacity of GUIDEROL bearings in a smaller radial space. Their full complement of race width rollers offers the ultimate in capacity. Rollers are center guided to utilize this capacity by limiting skewing and eliminating binding under average misalignment.

GUIDEROL bearings are designed especially to do the work of larger bearings more efficiently with less cost. Ideal for vertical mounting. Specify the sealed series to keep out contamination and avoid relubrication.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products — McGILL® — precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

▲ For more details circle NED-320 L on enclosed inquiry slip ▲

New AIRETOOL muffled motor CUTS GRINDER NOISE LEVEL

Now, Airetool Models 600 VM and 700 VM Vertical Grinders are available with a muffled motor that reduces exhaust noise to a minimum with no power loss. The motor's unusually quiet operation boosts production by boosting employee morale . . . whatever your metal removal problem . . . there's an Airetool Grinder to help you do it better . . . faster. For example: three vertical models for medium duty grinding, sanding, wire wheel work and fine finishing; three horizontal grinders for general grinding, snagging, buffing, etc., and three midget grinders for precision die grinding. For complete information on all Airetool Grinders and the new muffled motor write for Bulletin 70 today.

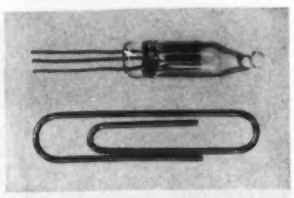
Branch Offices: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
Representatives in principal cities of U.S.A., Canada, Mexico, Puerto Rico, South America, England, Europe, Italy, Japan, Hawaii
European Plant: Vlaardingen, The Netherlands
Canadian Plant: Brantford, Ontario

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD OHIO

More than 30 years' experience in pneumatic tools

▲ For more details circle NED-321 L on enclosed inquiry slip ▲

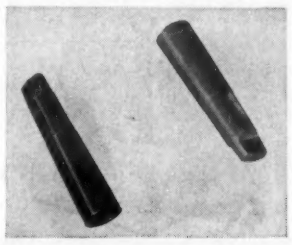
TRIGGER TUBES for high and low current uses



Four trigger tubes designed for high and low current applications have a rated life of 4000 and 5000 hr of operation for a change of 6 v in direct current maintaining voltage service. Two of the miniature units have a 6 ma average current and the other two have a 0.5 ma rating. Leads have a cleaned copper finish. Tubes may be supplied with a radioactive additive for use in total absence of light. • **Signalite, Inc.,** 37-41 Neptune Highway, Neptune, N. J.

▲ For more details circle NED-323 L on enclosed inquiry slip ▲

NYLON DRILL SLEEVES protect, lengthen life of drills



Up to 25 per cent of the vibration that might be transmitted to a drill cutting edge is absorbed by these nylon Drill-Dapter sleeves, made in two styles. The Red nylon sleeve protects new drills, prevents scoring of drill shanks, and assures accuracy. The White nylon sleeve accurately holds drills with broken or scarred shanks and makes possible further use of tools that would otherwise be unserviceable. White units have a center hole in the tang to facilitate centering and regrinding of damaged drills. Prices range from $1.35 to $5.30 for four inside and outside taper sizes. • **American Twist Drill Co.,** 14311 W. Chicago Blvd., Detroit, Mich.

▲ For more details circle NED-324 L on enclosed inquiry slip ▲

PREWIRED TWIN RACEWAY for light fixtures, power equipment

Mounted on floor, wall, or ceiling, Miroduct prewired, multioutlet twin raceway is available in 2 and 4-ft sections which are installed without cutting or splicing. A mounting adaptor which supports heavy lighting fixtures and power equipment is locked in place by double screws. The adaptor rotates 360 degrees, tilts 310 degrees, and aims fixtures for display lighting. Entire Miroduct system can be altered, expanded, or dismantled and moved without loss of components. Lower raceway is prewired with three-wire grounded convenience outlets spaced at 1-ft intervals. The upper raceway provides for low cost future circuiting. Price of the UL-listed product is $3 per foot. • **Miroflector Co.,** 40 Bayview Ave., Inwood, L. I., N. Y.

▲ For more details circle NED-325 L on enclosed inquiry slip ▲

GOODYEAR

4 Times the Life!

New **Neothane** Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from GOODYEAR

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

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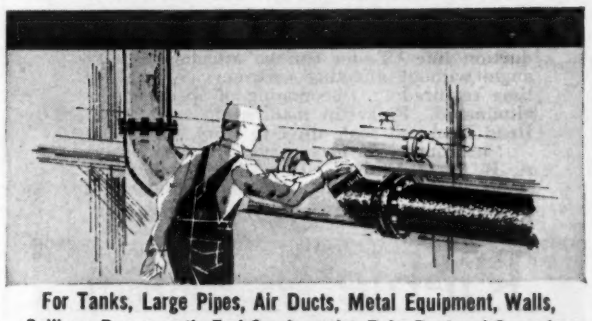
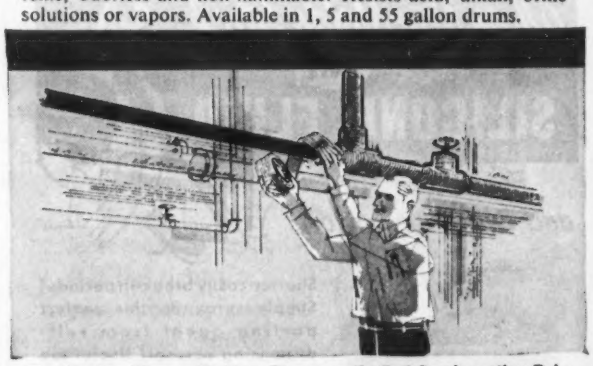
END ALL DRIP AND RUST PROBLEMS IN YOUR PLANT THESE TWO PROVEN WAYS!

Industrial plants know Mortell products offer more positive protection than any other drip-and-rust preventive. Maintenance men know that paints or compounds of paint and fish oil provide little or no permanent protection. Rust-inhibiting NoDrip Plastic Coating is a moisture-proof insulation that *does* stop condensation . . . forms a seamless jacket . . . *does* stop corrosion. NoDrip Tape, with its triple insulating barrier, is equally dependable.



For Tanks, Large Pipes, Air Ducts, Metal Equipment, Walls, Ceilings, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP PLASTIC COATING

The heavy consistency of NoDrip outlasts many coats of paint or ordinary rust-preventives. Permanently insulates and protects. Applies easily with trowel, brush or special spray. Nontoxic, odorless and non-flammable. Resists acid, alkali, brine solutions or vapors. Available in 1, 5 and 55 gallon drums.



For Smaller Pipes or Tubing, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP TAPE

An easy-to-use, wrap-around pipe covering, perfectly pliable, cork-filled, completely self-adhering. Forms an air-tight, 100% vapor- and moisture-proof jacket. Fits snugly even around tees, unions, angles, valves. Cuts maintenance costs—makes out-of-the-way storage areas useable—ends slip and slide floor hazards. No need for vapor seals, brads, fasteners or tools of any kind.

At all leading hardware, mill supply and plumbing jobbers. For complete information and technical handbook, write

Mortell COMPANY
526 Burch Street · Kankakee, Illinois

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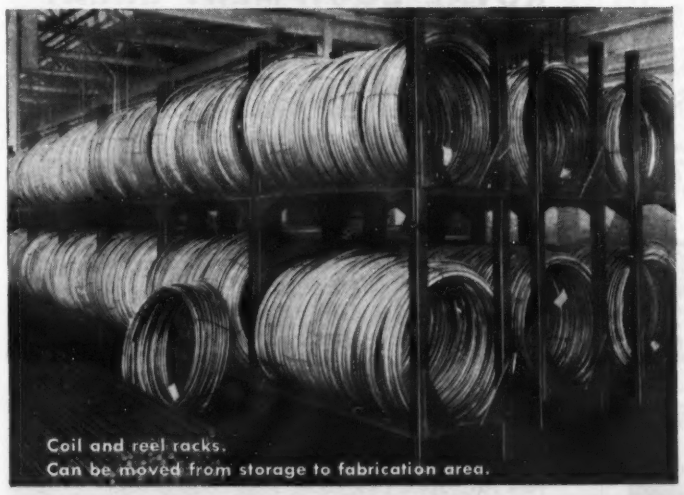
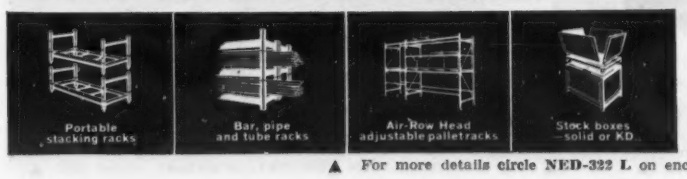
EMI

your prime source for high quality racks

STACKING STORING SHIPPING



Coil and reel racks.
Can be moved from storage to fabrication area.



EMI has the most complete range of storage and material handling racks in the industry. Shown here are examples. If you have a special problem, we will design racks to your exact specifications.

METAL WORKING FACILITIES—EMI offers complete metal working facilities including tubular, structural and special shapes.

YOU CAN STACK OR SHIP *ANYTHING* ON EMI RACKS

Write for our complete catalog!

WELL STACKED

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN

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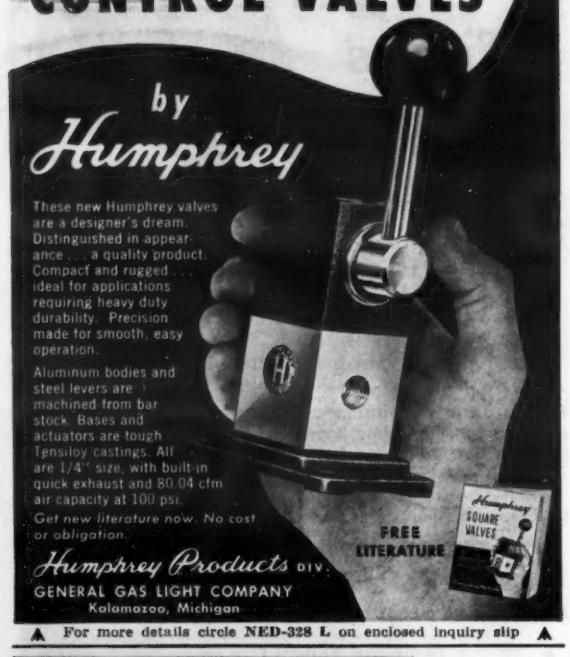
NEW! • PRECISION MADE...HEAVY DUTY

CONTROL VALVES

by Humphrey



These new Humphrey valves are a designer's dream. Distinguished in appearance . . . a quality product. Compact and rugged . . . ideal for applications requiring heavy duty durability. Precision made for smooth, easy operation.

Aluminum bodies and steel levers are machined from bar stock. Bases and actuators are tough Tensiloy castings. All are 1/4" size, with built-in quick exhaust and 80.04 cfm air capacity at 100 psi.

Get new literature now. No cost or obligation.

FREE LITERATURE

Humphrey Products DIV.
GENERAL GAS LIGHT COMPANY
Kalamazoo, Michigan

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Portable Hardness Tester

FOR ON-THE-JOB ROCKWELL READINGS

Extremely useful in making accurate hardness tests of warehoused stock or parts on the production line. Tester can be attached at any angle without affecting accuracy. No set-up time required . . . sectioning of specimens is eliminated. Fingertip loading up to 150 kg. Read Rockwell scale directly from large dials . . . no conversion necessary. Rockwell Scales A, B, C, D, E, F, G, H, and K available as standard. Weighs just 3 pounds 6 ounces.

For a demonstration, write Dept. NED-1160.

Riehle® TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILL.

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When New Molds Stick use IMS SILICONE FLUID

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING — releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS
it always pays to try
IMS SILICONE SPRAY

Get new tools into production sooner. Keep a few cans handy all the time. Order today!

DELIVERED PRICES
Single Can $2.00
Unbroken Dozen . . . $18.00
Unbroken Gross . . . $197.40

INJECTION MOLDERS SUPPLY CO.
17601 SO. MILES RD. CLEVELAND 28, OHIO LUdlow 1-3200

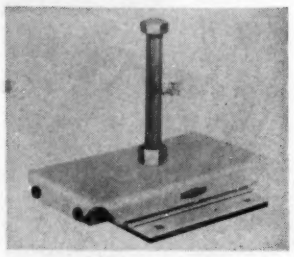
▲ For more details circle NED-330 L on enclosed inquiry slip ▲

AIR-OPERATED NAIL DRIVER
drives 20 to 60-penny nail sizes

Any nail from 20 to 60-penny size can be driven by this CP-5 XBND air - operated nail driver. The lightweight, easy-to-operate tool is only 14 in. long and will reach into tight corners. Nails are safely enclosed in a sleeve while being driven. Unit can be operated from a small industrial-type air compressor. • **Chicago Pneumatic Tool Co.**, 6 E. 44th St., New York 17, N. Y.

▲ For more details circle NED-331 L on enclosed inquiry slip ▲

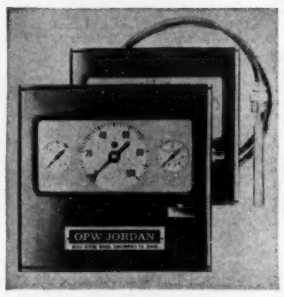
VIBRATION ABSORBING MOUNT
handles up to 4000-lb loads



Cold headers, shapers, compressors, and other machines that generate horizontal thrust are isolated from transfer of shock and vibration by Series RM machinery mounts. One Barrymount is used under each machine foot, and each will handle up to 4000-lb static load. Equipment rests on a top plate that rides on a set of internal rollers and is restrained by end-positioned neoprene springs which are available in proper stiffness rating for forces and frequencies involved. These mounts eliminate the need for special foundations, grouting, and inertia blocks. • **Barry Wright Inc.**, 700 Pleasant St., Watertown 72, Mass.

▲ For more details circle NED-332 L on enclosed inquiry slip ▲

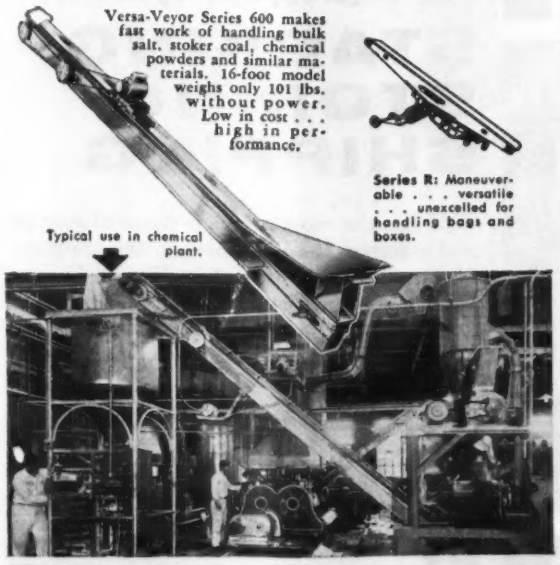
PNEUMATIC CONTROLLERS
for pressure and temperature



Pressures up to 10,000 psi and temperatures from −125 to 1000° F can be controlled by this line of self-contained pneumatic controllers. Response is within 1 per cent over the middle one-half of the scale. Standard features include 1 to 100 per cent proportional band, manual reset, differential gap action, and on-off snap action. Remote set-point, control by-pass, 0 to 150 per cent band, and automatic reset or rate are optional. Ranges may be changed in the field by using precalibrated measuring elements. Temperature controllers are offered in both indicating and recording models. Transmitters and recorders may also be specified. • **OPW-Jordan Corp.**, 6013 Wiehe Rd., Cincinnati 13, Ohio.

▲ For more details circle NED-333 L on enclosed inquiry slip ▲

LIGHTWEIGHT ALUMINUM VERSA-VEYOR SPEEDS BULK MATERIALS HANDLING



Versa-Veyor Series 600 makes fast work of handling bulk salt, stoker coal, chemical powders and similar materials. 16-foot model weighs only 101 lbs. without power. Low in cost . . . high in performance.

Series R: Maneuverable . . . versatile . . . unexcelled for handling bags and boxes.

Typical use in chemical plant.

VERSA Corporation
MATERIALS HANDLING EQUIPMENT P.O. BOX 152 • MT. STERLING, OHIO

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871B

Improved FEL-PRO C5-A "HI-TEMP" ANTI-SEIZE THREAD COMPOUND

delivers MORE dollar value at same LOW COST!

All These New Improvements—
NEW • Lower breaking and running torque
NEW • Non-settling, non-hardening, homogenized composition
NEW • Can be used in below freezing weather
NEW • Increased lubricating and sealing qualities
NEW • Prevents rust and corrosion

Now in tubes and cans

FREE TEST SAMPLE PROVES HOW!

You'll save countless man hours and avoid costly replacement of broken studs, bolts, etc., with the protective cushioning action provided by the colloidal copper composition of C5-A. Improved C5-A Lubricates and Seals for fast, easy application and removal. Gives same protective performance even after high-pressure, high-temperature use, up to 1800° F. Can be used on all metals and plastics.

FELT PRODUCTS MFG. CO.
Dept. 68, 7450 N. McCormick Blvd., Skokie, Illinois

✓ Ends seizing and galling even up to 1800° F.
✓ Reduces wrench torque
✓ Stops needless stud breakage
✓ Permits repeated re-use
✓ Speeds assembly and disassembly
✓ Prevents galling of stainless steel

TRY C5-A NOW . . .
Manufacturers, refiners, and power producers find C5-A ideal for boilers, face plate studs, etc. Write for your free test sample today!

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LITTLE THINGS MAKE ROYAL EQUIPMENT GREAT
—and keep output high all day long

A Royal chair may look like others—but not to the worker who sits on one all day. A case in point—Model 515 above—America's foremost production stool. Its uncluttered lines hide a dozen features that help posture, comfort, and efficiency . . . the big, contoured, 4-way adjustable back is mounted on spring steel to respond to the slightest body movement . . . the legs telescope for height adjustment. There are no protrusions to cause injuries . . . ■ There are dozens of Royal chairs and stools for industry. Each the best for its specific purpose. ■ The same holds true for Royal cabinets. All corners are rounded, all hinges and fastenings concealed. The extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. Write today for full details. ■ ROYAL METAL MANUFACTURING COMPANY, Dept. 18-K, One Park Ave., New York 16, N. Y. In Canada—Galt, Ont.

Royal
INDUSTRIAL EQUIPMENT

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WHERE DIRT COULD MEAN DANGER...

North American Aviation plant, Downey, Calif.

You'll find SPENCER Vacuum Systems

Built-in vacuum systems by Spencer are being relied on increasingly by industry to protect product quality during inspection and assembly.

In this "white room" at the Autonetics plant of North American Aviation, for example, a Spencer system is utilized for:

1. Frequent floor cleaning to maintain critical standards of dust-free cleanliness.
2. Final cleaning of components—by use of bench inlets at the individual assembly stations.

Whatever your needs in a built-in system—or industrial portable vacuum cleaners—it will pay to check with SPENCER ...world leader in industrial vacuum cleaning equipment.

Request Catalog No. 155B

The SPENCER TURBINE COMPANY HARTFORD 6, CONNECTICUT

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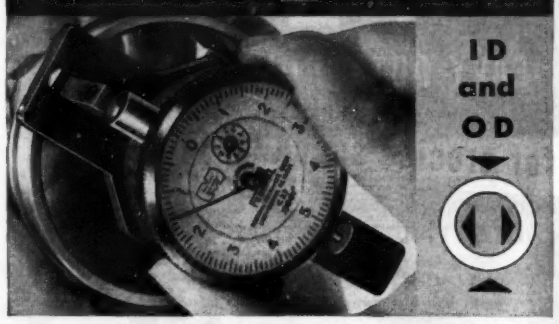
NEW POCKET-SIZE PRECISION COMPARATOR



- Readily converts to I.D. or O.D.
- Checks shallow diameters, width of slots, spacing between shoulders, etc . . . at bench, or if desired, at machine, while work is still in chuck.
- Wide adjustability — capacity 1⅛" to 4½" for inside diameters: from ¾" to 4⅛" for outside diameters. Gaging depth ⅛". Range of sensitive contact is .100".
- Has Miracle Movement Dial Indicator, .0001" grads.

For complete information and prices (Model 36P-1) write

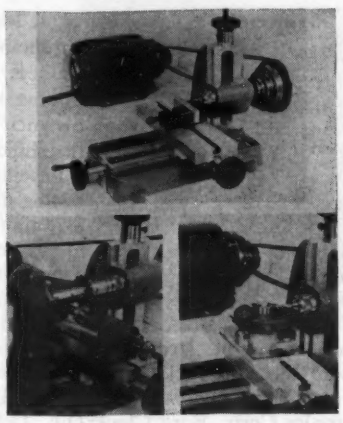
FEDERAL PRODUCTS CORPORATION
61711 Eddy Street, Providence 1, R. I.

Ask FEDERAL First

FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-338 L on enclosed inquiry slip ▲

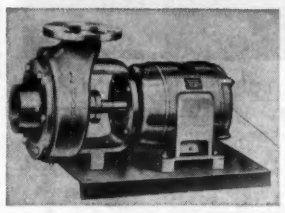
MILLING MACHINE is versatile collet-type unit



Many small jobs which would normally tie up larger machines can be handled by this collet-type milling machine. It measures 16 x 12 x 12 in. overall and is powered by a fractional horsepower motor through a variable speed drive. The highly accurate unit has Acme lead screws and micrometer dials calibrated in thousandths. The 9⅜ x 3 in. table has 6-in. travel, 4¼-in. traverse travel, and 3⅞-in. spindle height adjustment. Accessories for rotary table end milling, gear cutting, and other jobs are optional. • McKin Mfg. Co., 4223 Lincoln Blvd., Venice, Calif.

▲ For more details circle NED-340 L on enclosed inquiry slip ▲

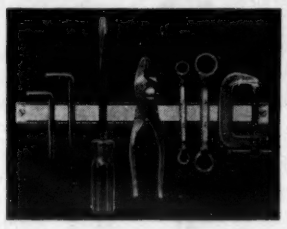
CENTRIFUGAL PUMPS capacities range up to 550 gpm



Series N1000 pumps are furnished both as straight centrifugal and self-priming types. They are either close-coupled to electric motors or pedestal mounted for coupling to electric motors and gasoline or diesel engines. Extra bearings designed into the volute carry the radial load of the pumps, made with capacities to 550 gpm and head pressure to 170 ft. Constructions are cast iron, bronze fitted, or all bronze. • Hydropump, Inc., 165 S. Fair Oaks Ave., Pasadena, Calif.

▲ For more details circle NED-341 L on enclosed inquiry slip ▲

MAGNETIC TOOL HOLDER attaches to bench, wall, or shelf

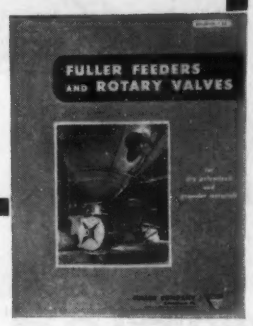


Assorted hand tools of normal size and weight are held ready for use by this permanent magnet tool holder. Easily attached to workbench, wall, or shelf, it grips the tools magnetically until released by a gentle pull. Large or heavy tools are accommodated by placing two or more of the 1 x 12-in. units together. Unit is also offered with a magnetic back for attaching directly to machines and other metal surfaces. • Jess Corp., Magnetic Products Div., 15770 Telegraph Rd., Detroit 39, Mich.

▲ For more details circle NED-342 L on enclosed inquiry slip ▲

NEW BULLETIN FEATURES ROTARY VALVES & FEEDERS

Fully illustrated . . . includes drawings and specifications, complete information ...FREE!



Fuller Rotary Valves and Feeders have offered a standard of quality and performance for more than 30 years.
They are designed and constructed for handling dry bulk materials at a saving, because of their excellent design and durable, precision construction.
Their many desirable features are described in Bulletin F5-A, just printed. It's worth writing for, and it's FREE.

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154 Bridge Street
Catasauqua, Pa.

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Offices in Principal Cities Throughout the World

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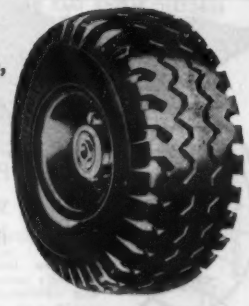
GENERAL

WIDE-BASE PNEUMATICS *designed* FOR YOUR PRODUCT

THE GENERAL TIRE

Whatever your need, there's a General Wide-Base Pneumatic to get the job done faster, easier and more economically. With high flotation for easier rolling, Generals cushion loads and equipment, save costly floors and floor surfaces, increase load capacity. Get the right tire for your product from the full line of General Wide-Base Pneumatics.



Available separately or in assemblies of tires, tubes and wheels. Sizes O.D.8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

Send for Catalog, Dept. 4

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

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Putting Your Ideas Into Shape . . .

. . . is a specialty with Stanley-Humason. If, for example, you have a new idea that involves something out of the ordinary in the way of flat springs, just send us a rough sketch or a brief description outlining your requirements. Our engineers will develop a working design and recommend the right material and temper to insure springs that perform according to specification. And we also have the complete, modern production facilities needed to produce your springs in any quantities . . . quickly and efficiently.

The example shown here represents just one of the many cases where Stanley-Humason has successfully solved customers' special flat spring problems — and we can do the same for you.

FOR ADDITIONAL INFORMATION . . . send for Data Sheets on Flat Springs, or simply write to us outlining your requirements. Also available are Data Sheets on Stanley-Humason Coil Springs, Fasteners, Metal Stampings, Screw Machine Parts, Wire Forms, and Assembled Products.

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A Subsidiary of The Stanley Works
Dept. K, 58 Stafford Avenue
FORESTVILLE, CONNECTICUT

STANLEY®

SPRINGS • WIRE FORMS • STAMPINGS • SCREW MACHINE PRODUCTS • ASSEMBLIES

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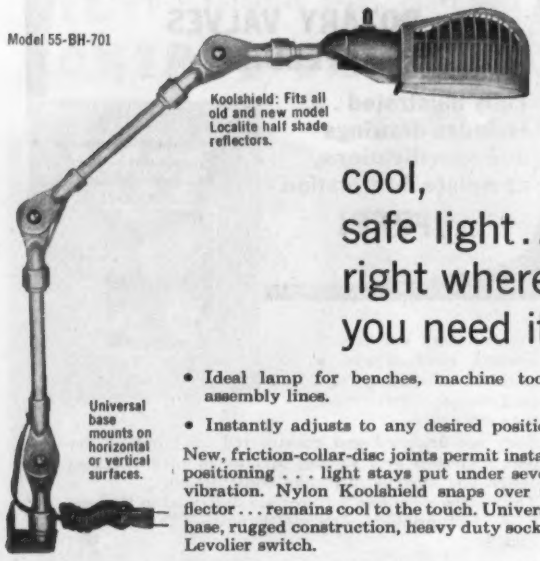
FOSTORIA LOCALITES

Model 55-BH-701



cool, safe light... right where you need it!

- Ideal lamp for benches, machine tools, assembly lines.
- Instantly adjusts to any desired position.

New, friction-collar-disc joints permit instant positioning . . . light stays put under severe vibration. Nylon Koolshield snaps over reflector . . . remains cool to the touch. Universal base, rugged construction, heavy duty socket, Levolier switch.

Write for catalog of Localites for every industrial need.

Available through wholesalers everywhere.

FOSTORIA CORPORATION
FOSTORIA, OHIO

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FOR THE BIG SHAKE*

"World's Quietest Vibrators"

hopper cars
massive bunkers
large bins
silos
chutes
shake-outs

MOVES, FEEDS, SIFTS
sand
clay
coal
ore
other materials

VIBROLATOR®

VIBRATION INDUCERS

*VIBROLATOR CCVP-3000, the 6600-lb. impact vibrator — or one of its three smaller brothers — IS GUARANTEED TO DO YOUR JOB OR YOUR MONEY BACK.

Order from your distributor today, or write for complete catalog.

MARTIN ENGINEERING COMPANY
Largest Producer of Rotary Vibrators
155 Nedlow Street, Neponset, Illinois

● VIBROLATOR is Martin Engineering's registered trade mark for vibration inducers and vibrator accessories.

For more details circle NED-346 L on enclosed inquiry slip

no more cold feet with *Electro-Mat*
ELECTRIC FLOOR MAT

helps prevent colds

Production line and office workers can now work in absolute comfort

The new low-priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 100 Watt light bulb. It is made of high quality oil-resistant rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism. Equip each employee with an Electro Mat.

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $6.95 each.
Please send me: ☐ Electro Mat at $7.95 each
Enclosed is my check ☐ money order ☐
☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $6.95 plus C.O.D. fee.

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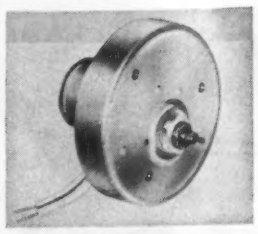
Mail check or money order today
Only $7.95 Delivered

10 Day Money Back Guarantee
Interstate Rubber Products Corp., Dept. 303
906 Avila St., Los Angeles 12, California
Dealer Inquiries Invited. 9108 Meyers Rd., Detroit 28, Michigan

For more details circle NED-347 L on enclosed inquiry slip

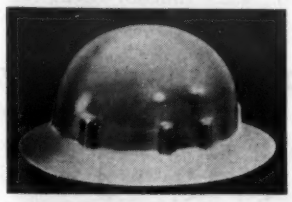
MOTOR & GEAR TRAIN for clocks and timing devices



Noise level of this fit-up synchronous motor and gear train is so low that it cannot be measured at a 3-in. distance over sound room threshold noise. Low cost subassembly for clocks and timing devices is sold to end-use manufacturers for packaging it with clock dial, hands, and face for marketing. Fit-up is permanently lubricated and sealed against dust and humidity. Current requirement is 1 w. It measures 2½ in. OD by 1 11/32 in. deep and has two 6-in. stripped and tinned leads. Complete cord sets and various mountings, setting, and stem arrangements can be specified. ● **Amphenol-Borg Electronics Corp.**, Borg Clock Div., Delavan, Wis.

For more details circle NED-348 L on enclosed inquiry slip

ELECTRICAL SAFETY HATS also withstand 40 ft-lb impact

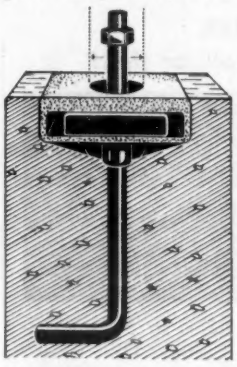


Plastic electrical safety hats which meet and exceed EEI specifications for protection from electrical shock will also withstand 40 ft-lb impact without visible structural or material weakness. Penetration depth of material is only ¼ in. Offered in standard safety yellow color, hat shell is uniformly strong, corrosion - resistant, and maintenance - free. ● **Boyer-Campbell Co.**, 801 W. Baltimore St., Detroit 2, Mich.

For more details circle NED-349 L on enclosed inquiry slip

MACHINERY ANCHOR BOLT flush with floor until used

Errors in locating machinery anchor bolts to line up with anchor holes in equipment, plus the hazard of protruding bolts, are eliminated with the use of the Deco anchor bolt. It is flush with the floor until installation of equipment is made. A box-like fitting attached to the top of the anchor bolt contains an oblong nut which is movable in all directions to compensate for small errors in setting the bolts. The machine or column is attached to the malleable iron fitting by use of a stud of the desired length. Anchor is available as a fitting only or complete with anchor bolt and stud to specifications in sizes from ⅜ to 1½ in. bolt diameters. ● **Decatur Engineering Co.**, 519 E. William St., Decatur, Ill.



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MAKE UP YOUR OWN V-BELTS... IN ANY LENGTH with

ALLIGATOR® V-BELT FASTENERS

AND A LENGTH OF CROSS-WOVEN TYPE V-BELTING
(Available by the foot in sizes A, B, BB, C, D, & E)

1. Cut off the required length of V-Belting.
2. Attach Alligator V-Belt Fastener

3. Thread belt ends around sheaves and join fastener

ORDER FROM YOUR DISTRIBUTOR or write to us for bulletin no. V-227

FAST AND EASY INSTALLATION ON ALL V-DRIVES

ONE STRONG SEPARABLE ALLIGATOR FASTENER

Flexible STEEL LACING COMPANY
4664 LEXINGTON ST. • CHICAGO 44, ILLINOIS

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A MAJOR BREAKTHROUGH ON ENGINEERING

CAMS

by the world's leading CAM manufacturer

Write for Bulletin No. 105 which completely details and outlines how you can

SAVE 2,300%
on engineering computation alone

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For more details circle NED-352 L on enclosed inquiry slip

MERIAM I★L★S

HEAVY-DUTY PULSE PICKUPS

for precise speed measurement

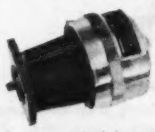
10005-MI

DIGITAL READOUT SYSTEMS

Model 2050
Magnetic pickup built for heavy-duty service in industrial, military and experimental applications where space is limited and reliability essential.

Model 2043
Magnetic pickup designed to sandwich between a tachometer generator and an AND 20005 engine mounting pad. Rear flange accommodates standard 3-phase electric tachometer generator.

Model 1312 Electronic Tachometer



Model 2040
Compact lightweight magnetic pickup designed for mounting to an AND 20005 engine pad . . . also for checking other rotating devices which require high resolution per revolution.

Model 2095
Photo-electric pickup is ideal for low speed applications . . . process control . . . measurement of linear dimensions and angular movement.

DIAL INDICATION SYSTEMS

Model 2020
Dual-signal generating device provides electrical impulses to operate electronic counters plus a 3-phase signal to operate 3-phase synchronous electric tachometer indicators.

Model 2030
Tachometer generator assembly for heavy-duty use in both military and industrial locations. Provides a 3-phase signal to an electric tachometer indicator.

Model 635 Speed Indicator

Performance-proven in heavy-duty military and industrial service, MERIAM magnetic and photo-electric pickups and tachometer generator assemblies withstand severe moisture, temperature and vibration conditions. All models available in explosion-proof housings for operation in hazardous areas . . . indicators can be installed as far as 500 feet from pickups.

THE MERIAM INSTRUMENT CO.
ILS ELECTRONIC DIVISION
10950 Madison Avenue
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Write today for complete specifications and operating instructions

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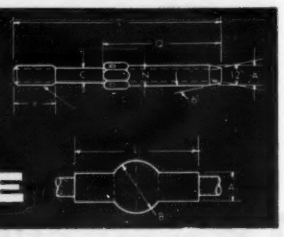
FREE DESIGN SERVICE



Whether you are planning a "routine" job, pioneering in uncharted territory or just re-evaluating present needs, you should take advantage of the expert assistance of Bergen's design engineers. They will prescribe the precise cable or assembly to meet your requirements . . . custom tailor one for you if that will do the job more efficiently. Call or write today for details . . . no obligation, of course.

A Note To Remember: Throughout industry, Bergen is famous for fast deliveries!

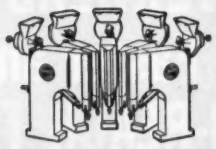
BERGEN WIRE ROPE CO.

502 GREGG ST. • LODI, N. J. • HU 7-3521

"Specializing in the Unusual"

▲ For more details circle NED-354 L on enclosed inquiry slip ▲

NEW "BUILDING BLOCKS" for automatic riveting



Milford's Models 56 and 57 offer unlimited flexibility in automatic assembly

Group these new "Building Blocks" to suit your production needs. Use them singly, in pairs, in threes, fours or even fives. Write for more information on multiple riveting, the newest answer to reducing assembly costs.

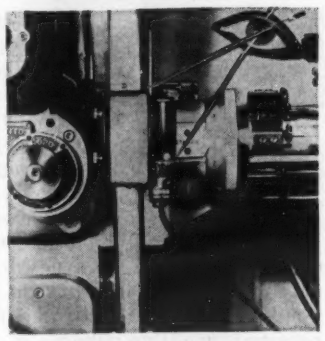
For more new ideas, tips and technical data on tubular rivets and rivet-setting machines, ask your Milford Representative for a look at Milford's new MANUAL OF MODERN RIVETING PRACTICE.

THE MILFORD RIVET & MACHINE CO.

MILFORD, CONN. • HATBORO, PENN. • ELYRIA, OHIO • AURORA, ILL. • NORWALK, CALIF.

▲ For more details circle NED-355 L on enclosed inquiry slip ▲

ILLUMINATED MAGNIFIER for use with vernier scales



Machinery with hard-to-read vernier scales can be equipped with the Magna Eye, an illuminated magnifier which facilitates scale reading. Lens assembly and light are attached to a plate which is fastened to the machine. Series 600 Magna Eye is for larger verniers which read in 50 graduations. Lens size is 1.6 x 4 in. and magnification is 4 x. Smaller Model 500 for machines with standard or double verniers has a 1.5 x 2.5-in. 4 x lens. • **Stebar Co.**, 215-221 28th Ave. N., Minneapolis 11, Minn.

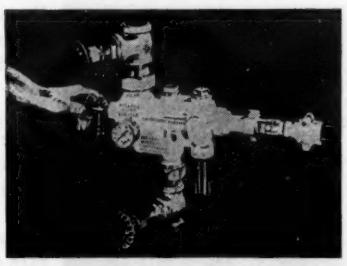
▲ For more details circle NED-357 L on enclosed inquiry slip ▲

LOCK WASHERS heavier plating applied mechanically

Spring lock washers made by this company are now mechanically plated with a minimum 0.0003-in. thick coating. The Dyko metal plating process does not increase the cost of washers and serves to eliminate hydrogen embrittlement which may occur with electrolytic plating. Washers are available in the standard Job-Pak shown and in bulk. • **Mellowes Co.**, 125 E. Nash St., Milwaukee 12, Wis.

▲ For more details circle NED-358 L on enclosed inquiry slip ▲

HYDRAULIC JET CLEANER is high-impact steam-water unit



High-impact hydraulic jet cleaner effectively cleans walls, floors, and equipment in chemical, food, marine, processing, and general industrial applications. Super 5, 30, and 80 models, using plant steam pressures of 5 to 150 psi and inlet water at 10 to 40 psi, produce hot liquid jets at hose pressures from 100 to 630 psi. The high velocity jet discharge reaches areas up to 50 ft away, quickly removing all soil, scale, and encrustations. Detergents can be mixed with the hot water jets in adjustable amounts up to 25 per cent of volume. Units are supplied with 50 ft of ¾ in. neoprene hose, cleaning lance with handle, and nozzle with two all-purpose nozzle discs. • **Sellers Injector Corp.**, 1600 Hamilton St., Philadelphia 30, Pa.

▲ For more details circle NED-359 L on enclosed inquiry slip ▲

NINE IN THE LINE

Black & Decker's NEW Heavy-Duty Industrial Vacuum Cleaner line is long on cleaning power, offers you greater capacity—¼ bushel to 40 gallons—for all-purpose pick-up!

No matter where it is, furnace room or boardroom . . . no matter what it is, wet or dry pick-up, you clean up dirt faster, easier with B&D Heavy-Duty Vacuums.

Redesigned tank inlets for increased intake, convenient wet-disposal outlets on all new stainless models, modern B&D designed attachments . . . all this you'll find in B&D's new line of nine. See how B&D Vacuum Cleaners can help you keep clean. Send for your copy of "The Inside Story on a Dirty Business."

For sales or service, look in the Yellow Pages of your telephone book under

Black & Decker

CUTS MAN-HOURS TO MINUTES

▲ For more details circle NED-356 L on enclosed inquiry slip ▲

after 61 years

"SMART" SOLDERING STARTS WITH THIS SPOOL!

Kester Solder

KESTER FLUX-CORE SOLDER is always first choice with those who know solder. They like the way it helps keep production costs in line, speeds assembly, assures dependable performance. Yes, American industry is sold on Kester . . . how about you?

WRITE today for free Kester 78-page technical manual, "SOLDER . . . Its Fundamentals and Usage."

KESTER SOLDER COMPANY

4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Anaheim, California
Brantford, Ontario, Canada

Over 60 Years' Experience in Solder and Flux Manufacturing

▲ For more details circle NED-360 L on enclosed inquiry slip ▲

NEW DU PONT ADIPRENE® MEANS LONGER LIFE FOR INDUSTRIAL WHEELS

Du Pont synthetic rubber research now brings you ADIPRENE L . . . a new urethane elastomer for longer lasting, better performing industrial wheels of all types.

NEW WHEELS OUTLAST RUBBER 5 TO 1

Wheels made from ADIPRENE L carry a far heavier load than conventional rubber wheels . . . yet they are resilient, won't mark or damage floors. They resist oils, mild chemicals, weathering, aging, high and low temperatures.

Most important, ADIPRENE L actually multiplies wheel life because of its outstanding resistance to wear and abuse. Four- and fivefold increases are common. In one plant, where rubber lasted only a few days, ADIPRENE L wheels were in good condition after *six months!*

Send the coupon for information about industrial wheels made from this new Du Pont elastomer.

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Department NED-11
Wilmington 98, Delaware

☐ I would like to know more about ADIPRENE L industrial wheels. Please send literature and list of manufacturers.
☐ I am particularly interested in the following types of wheels _____
☐ Other information _____
Name _____
Firm _____
Address _____
City _____ State _____

DU PONT SYNTHETIC RUBBER
NEOPRENE HYPALON® VITON® ADIPRENE®

Better Things for Better Living . . . through Chemistry

▲ For more details circle NED-361 L on enclosed inquiry slip ▲

Compact, economical, safe. All revolving parts are covered. Instantly adjustable. Shreds ⅛" to ⅜". Designed for continuous and trouble-free service.

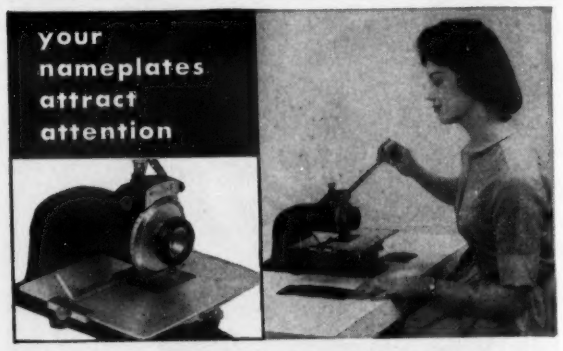
Quickly shreds newspapers, magazines, waste paper, cellophane, tissue, corrugated cartons, wax paper, etc. into uniform resilient 1/8" to 3/8" strands, ideal for packaging purposes. Especially adapted to shredding confidential records, blue prints or any classified material.

Send for descriptive bulletin S1255. Names of users near you available on request.

FREE TRIAL! Operate a SHRED ALL for 30 days — if not satisfied — return — owe nothing.

UNIVERSAL SHREDDER CO.
2934 Bay Road — Saginaw, Michigan

▲ For more details circle NED-362 L on enclosed inquiry slip ▲



Mark Them on the GTS Nameplate Detail Press for Neatest Appearance and Easy Reading

Your nameplates represent you . . . they're your Silent Salesmen. With the GTS Nameplate Detail Press you'll always get sharp permanent nameplate marking . . . that anyone can read at a glance. Never a *blur* on nameplate surfaces.

Automatic spacing, alignment and depth can't vary, unless you change the setting.

You'll find the GTS Nameplate Detail Press a dependable, easy-to-use tool. It's the original, designed and built by GTS. WRITE . . . WE'LL SEND COMPLETE DETAILS.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine, Chicago 13, Ill.
IF IT'S WORTH MAKING, IT'S WORTH MARKING

▲ For more details circle NED-363 L on enclosed inquiry slip ▲

Just Out! Just the ticket to cut cost!

ROSS "CUB"

NEW SPEED CONTROL VALVE

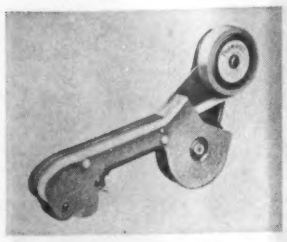
⅛" and ¼" pipe sizes in stock now!

Now a speed control valve that regulates your cylinder movement with precision and sureness, but which lists at $3.00 and $3.25. And despite its lower costs, "CUB" features the same high quality of design and workmanship you've come to expect from Ross. "CUB'S" design stresses trouble-free operation and easy maintenance. CUB is small, aluminum and lightweight. If you use speed controls, by all means call your Ross representative or write us.

ROSS OPERATING VALVE CO.
161 E. Golden Gate Ave. • Detroit 3, Michigan

▲ For more details circle NED-364 L on enclosed inquiry slip ▲

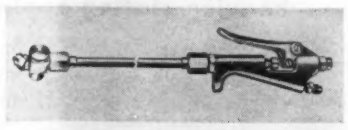
TRANSFER TAPE DISPENSER
applies double-coated adhesive tape



One-hand operated 4DF dispenser for Permacel 04 Transfer Tape up to 1 in. wide removes the tape interliner and applies the double - coated adhesive tape directly to glass, metal, wood, plastic, boxboard, and other surfaces. Tape is cut with a squeeze of the trigger and an exposed tab is left to start the next strip. Any length strip can be applied. The 4-mil thick tape is used for laminating various materials and mounting nameplates, faceplates, mirrors, and decorative trim. It is an economical means of imparting pressure-sensitive qualities to Teflon, Mylar, and polyethylene. • Permacel, New Brunswick, N. J.

▲ For more details circle NED-365 L on enclosed inquiry slip ▲

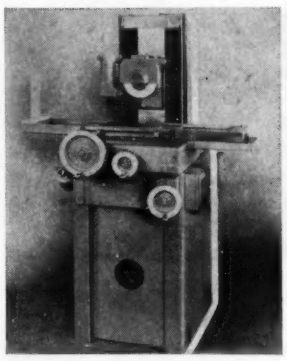
AIRLESS SPRAY PAINT GUN
pole type in 4, 6, and 8-ft lengths



Airless paint spraying of hard-to-reach surfaces, boxcars, and high walls and ceilings is facilitated by this pole gun, available in 4, 6, and 8-ft lengths. In many cases, scaffolding and ladders are unnecessary. Gun has a 360-degree swivel head which is easily detached for cleaning, a large handle and trigger for handling ease, and a convenient paint shut-off needle valve at the tip of the pole. It is used with Binks airless spray painting outfits. • **Binks Mfg. Co.**, 3114 Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-366 L on enclosed inquiry slip ▲

SURFACE GRINDER
manual table is mounted on rollers



Precision operations are performed readily on this hand-operated Model 618-HR Rollerway grinder. The manually controlled table is mounted on 78 precision-ground rolls featuring nonmetallic retainers. Cross-slide is also smooth operating. Accurate wheel dressing is assured by table locking device which holds it stable. Added features are a variable tensioning device which compensates for too-easy table movement on some operations and a gear ratio in the handwheel which eliminates "snap" when reversing the table. Spring-loaded bumpers further smooth out reversal. • **Reid Brothers Co.**, 140 Elliott St., Beverly, Mass.

▲ For more details circle NED-367 L on enclosed inquiry slip ▲

ACCURATE CO_2 Analysis in 40 Seconds!

Other outstanding features of the FYRITE CO_2 Indicator are its durable, fool-proof construction and unmatched convenience of operation. It requires no setting-up, has no valves or leveling bottle to manipulate.

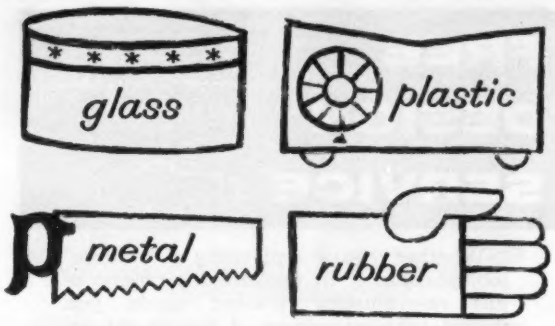
The FYRITE measures CO_2 directly by the fundamental method of chemical absorption. Consequently, the reading is independent of voltage, humidity, temperature, or atmospheric pressure conditions.

Comes complete with chemical charge good for at least 300 readings. Replacing chemical merely requires removing four screws that hold top assembly in place.

Write for Bulletin 805

BACHARACH Industrial Instrument Company
200 N. Braddock Ave. • Pittsburgh 8, Pa.

▲ For more details circle NED-368 L on enclosed inquiry slip ▲



FLO-MASTER FELT TIP PENS AND FLO-MASTER INKS MARK ON EVERYTHING

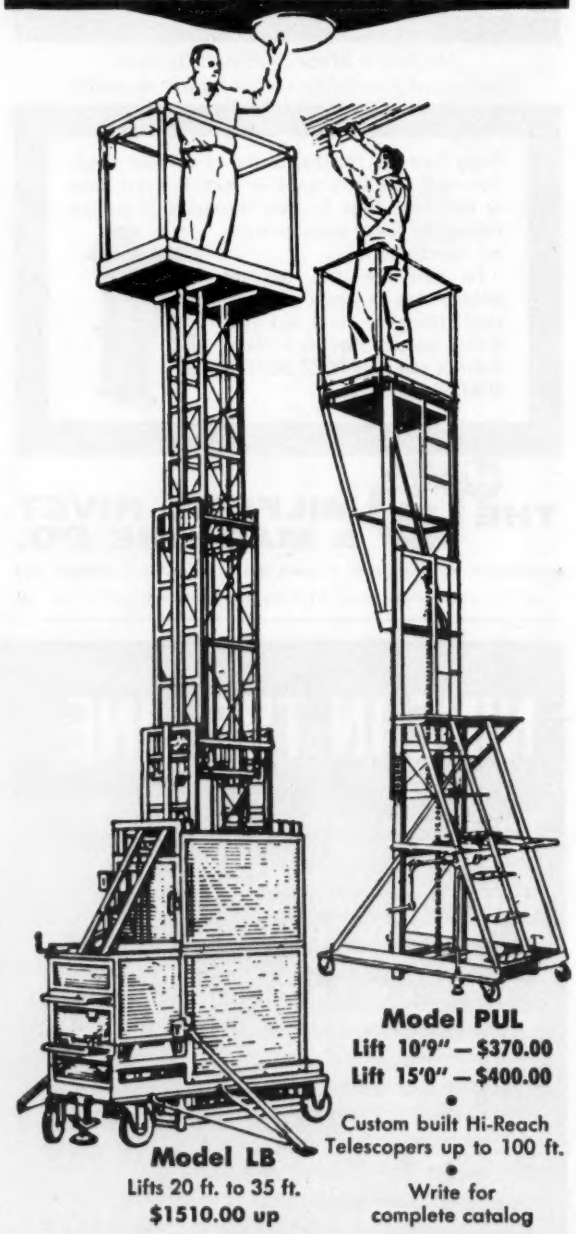
Flo-master felt tip pens with interchangeable felt tips are widely used in industry; durable and long lasting, they prove to be the economical buy—only $3. Flo-master oil-based inks make it easy to put a permanent mark on any surface; colors, too—black, green, blue, red, yellow, brown, purple, orange.

Economical marking in many colors. Use Cado-markers for economical marking in many colors. The Cado-marker has a fixed felt tip and a built-in Flo-master ink supply. Available in 49¢ Regular Size and 89¢ refillable Size. Ideal for distribution to personnel in eight-color sets—economical, too!

CUSHMAN & DENISON
Camden, New Jersey
A SUBSIDIARY OF THE ESTERBROOK PEN COMPANY

▲ For more details circle NED-369 L on enclosed inquiry slip ▲

OVERHEAD SERVICING is Faster and Safer with HI-REACH TELESCOPERS



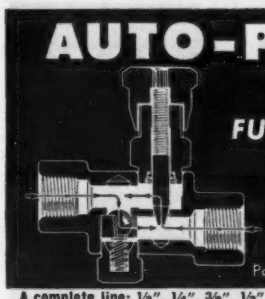
Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

▲ For more details circle NED-370 L on enclosed inquiry slip ▲

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841, 174

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

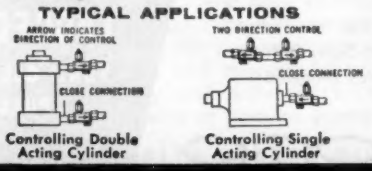
MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS ® 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle NED-371 L on enclosed inquiry slip ▲

SAFER HANDLING

of INDUSTRIAL LIQUIDS!

Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8' hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, your Tokheim representative or write for list of liquids.

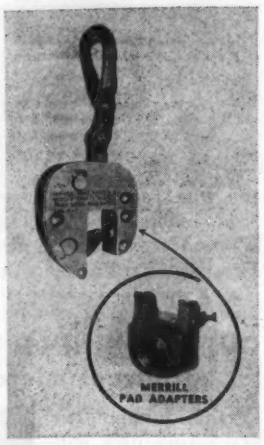
TOKHEIM High-Vacuum HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim International, A.G., Lucerne, Switzerland; GenPro Inc., Shelbyville, Indiana; Tokheim of Canada, Ltd., Toronto, Ontario

▲ For more details circle NED-372 L on enclosed inquiry slip ▲

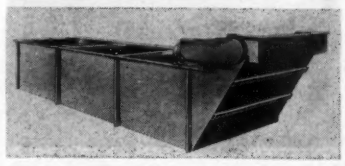
LIFT PAD ADAPTER increases range of lifting clamps



Gripping range of the Special Opening G lifting clamp pictured can be increased for applications requiring a large variance in grip with the Merrill pad adapter. The 3/4 to 1 3/8-in. grip range of a 1-ton clamp is increased for handling materials from 0 to 1 3/8 in. Likewise, a 3-ton clamp with 1 3/4 to 3 1/8-in. grip range can be adapted to handle materials as thin as 1/4 in. Adapter is replaceable and slips in and out without the use of tools. • **Merrill Brothers,** Artic Street, Maspeth, N. Y.

▲ For more details circle NED-374 L on enclosed inquiry slip ▲

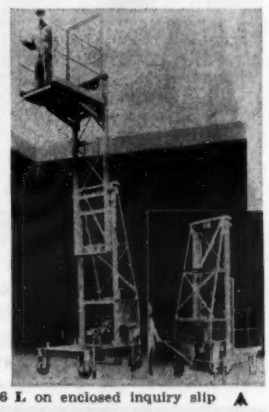
COOLANT SETTLING SYSTEM capacities are 1000 gal and upward



Large particles are settled out of mineral oil and water soluble coolants with 70 to 90 per cent efficiency by this conveyorized settling system. Operation of the drag conveyor is automatic from the start to the point of dropping sludge into the disposal container. The conveyor ramp can be built to discharge at any height above the floor. Where small particles float to the surface a spray skimmer can be furnished to carry them to the conveyor ramp. Five models with capacities from 1000 to 5000 gal range in size from 15 ft 3 in. x 3 ft x 4 ft to 23 ft 6 in. x 6 ft x 6 ft. • **American Laundry Machinery Co.,** Olson Filtration Engineers Div., 5024 Section Ave., Cincinnati 12, Ohio.

▲ For more details circle NED-375 L on enclosed inquiry slip ▲

PLATFORM LIFT raises worker to 20-ft height

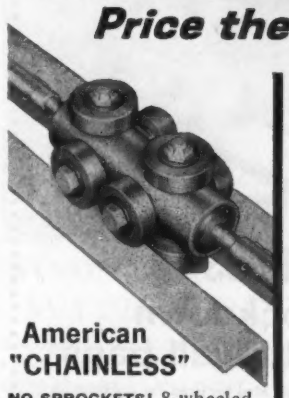


With this electrically operated Atlas Step On Scaffold, the worker merely steps onto the platform, presses a button, and rises automatically to any height up to 20 ft. The work platform has welded steel construction, and can easily be rolled by one man. It is suited for general overhead maintenance, painting, lighting, and cleaning. • **Atlas Industrial Corp.,** 849 39th St., Brooklyn 32, N. Y.

▲ For more details circle NED-376 L on enclosed inquiry slip ▲

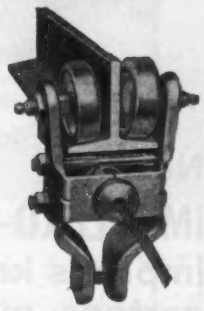
CONVEYORS?

Price these two!



American "CHAINLESS"

NO SPROCKETS! 8-wheeled trolley rolls around curves. Two, three or four-rail track is used on levels, curves or inclines, as needed. Solid steel rods with ball-socket joints connect the trolleys. Caterpillar drive is ideal for in-the-floor tow-type, pallet or overhead installations. Drive indexes precisely. For loads to 400 lbs. per hanger.



American "CABLE-WAY"

COMPACT! Smallest sprocket is only 15 1/4" diameter. Four trolley capacities: 80, 125, 160 and 250 lbs. per hanger. Trolley side-plates bolt over factory-positioned drive lug. Track bolts together. Conventional sprocket drive. Smooth, quiet, exceptionally low in price. Ask for Catalog CD-B.

© THE AMERICAN MONORAIL CO 1960

CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 7, Ohio
In Canada: Canadian MonoRail Co. • Galt, Ont.

▲ For more details circle NED-377 L on enclosed inquiry slip ▲

Speedry PROUDLY ANNOUNCES

REPLACEABLE HEADS for the GIANT OPAQUE maqic marker®

applicator

MODEL NO. 127

In seconds, MAGIC MARKER Giant Model 127 is renewed and ready to go again—just slip out the old head and slip in the new! Now, replaceable heads, plus refills, give extra miles of continuous marking. Saves time and money!

$1.89 COMPLETE
READY TO USE
REFILLS 99¢ each NEW HEADS 25¢ each

MAGIC MARKER "Giant" Model 127—with new formula Speedry® Type "BB" Opaque ink—is made for marking metals, glass, plastics, or any other smooth, non-porous surface. Controlled valve action means instant, uninterrupted ink flow. Make the mark fast, dry, indelibly! Unbreakable, seamless all-aluminum construction with handy pocket clip.

8 BRILLIANT COLORS plus WHITE. Black, Red, Blue, Yellow, Orange, Brown, Green, Purple.

FREE! INDUSTRIAL PORTFOLIO
Valuable time-and money-saving answers to product problems. Write

Speedry PRODUCTS, INC.
DEPT. EQ-6 Richmond Hill 18, N. Y.

©1960SPI

▲ For more details circle NED-378 L on enclosed inquiry slip ▲

LIGHTWEIGHT-COMPACT

BUT A GIANT IN PERFORMANCE-

THE NEW STERLING FRACTIONAL-HORSEPOWER SPEED-TROL!

For unmatched reliability in variable speed control in fractional horsepower applications, this new Sterling unit incorporates three superlatives within its modern design . . . this is the *lightest, most compact,* and *most versatile* drive of its type. Here are the facts:

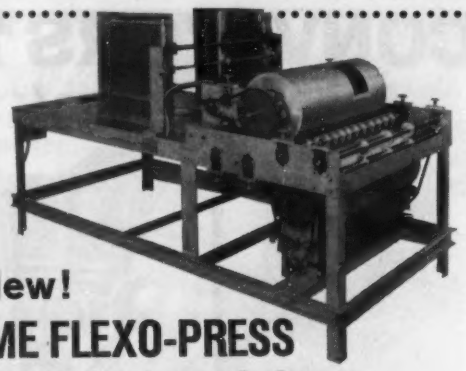
DIMENSIONS					
				SHAFT	
RATINGS	LEN.	HT.	WID.	HT.	DIA.
1/4, 1/2, 3/4	16 15/16	15 1/4	7 5/8	4 1/8	3/4
Weight: 61 lbs. at 1/4 H.P.					

GENERAL SPECIFICATIONS: Available in drip-proof, totally-enclosed or explosion-proof construction; single phase or three phase. Infinitely variable speeds, from 4,660 rpm. to 1.2 rpm. Speed ratios to 10:1. Direct or remote control. Universal mounting. Two optional types of speed control mechanisms — hand wheel or lever.

WRITE TODAY FOR BULLETIN 201! Get full information about the new Sterling Fractional-Horsepower Speed-Trol.

STERLING ELECTRIC MOTORS, INC.
A Subsidiary of Hathaway Instruments, Inc.
5401 TELEGRAPH ROAD, LOS ANGELES 22, CALIFORNIA

▲ For more details circle NED-373 L on enclosed inquiry slip ▲



New!

IME FLEXO-PRESS

imprints knockdown cartons, multi-wall bags

★ Up to 3600 an hour ★ Can also be used for continuous imprinting of web or sheet-fed material ★ Handles any size ★ Imprints top, bottom, sides in one pass ★ Quality impression every time

New IME Flexopresses code, date, trade-mark and price in one step . . . handle knockdown cartons and multi-wall bags of any size . . . mark as many as 3600 an hour.

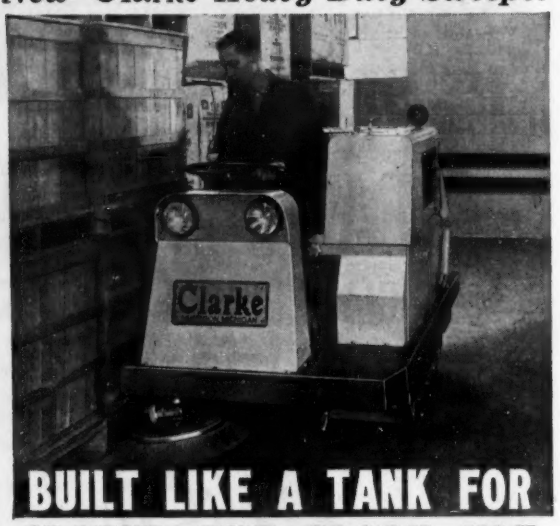
You get a sharp, instant-drying impression on burlap, foil, kraft, virtually every material. And thanks to an IME-developed inking system, you simply pour ink into open fountain to refill. No machine shut-downs, no messy clean-up.

Whatever your marking needs, IME either has, or can help you develop a machine to handle them. Write Industrial Marking Equipment Company, Inc., Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, inc. 655 BERRIMAN ST. BROOKLYN 8, N.Y. NI 9-3305

▲ For more details circle NED-379 L on enclosed inquiry slip ▲

New Clarke *Heavy Duty Sweeper*



BUILT LIKE A TANK FOR 'ROUND THE CLOCK USE

Here's the sweeper you've wanted — the new heavy duty Clarke, the most rugged, work-hungry, punishment-absorbing sweeper on the market.

Works anywhere — sweeps aisles, ramps, open areas, indoors or out. It sweeps cleaner, faster and more dust-free than any other method. **And it slashes your sweeping labor costs as much as 90%.**

Works anytime, too. 'Round the clock, if you like. Its tank-tough body, with 1/4" steel side plates and 3/16" channel steel protective bumper, takes all the punishment you can give and stays right on the job.

Sports car smoothness, plenty of power and freedom from shifting gears are only a few of the easy-handling features of its new hydraulic system. And besides ease of control, operator has maximum visibility of area ahead to insure thorough, efficient sweeping.

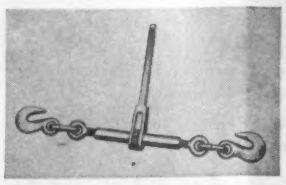
Let your Clarke Power Sweeper Distributor demonstrate all the features of the new Clarke CHD-36 Sweeper—and spell out how much money it can save you. Write for his name — and new illustrated brochure.

Clarke
FLOOR MACHINE COMPANY
DIVISION OF STUDEBAKER-PACKARD CORPORATION
2211S Clay Avenue, Muskegon, Michigan

Authorized Sales Representatives and Service Branches in Principal Cities
In Canada: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ont.
Distributed by: F. F. Barber Machinery, 187-191 Fleet Street, W., Toronto, Ontario
Maritime Provinces: Thorne's Hardware, Limited, Saint John, New Brunswick

▲ For more details circle NED-380 L on enclosed inquiry slip ▲

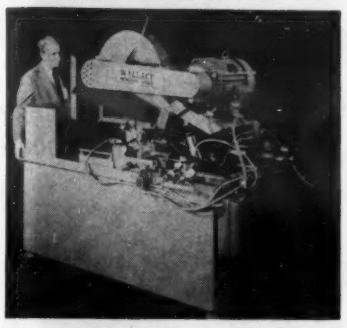
SLIDING CHOKER HOOK
load capacities are 2500 to 8000 lb



Drop forged and heat treated sliding choker hooks accommodate heavy thimbles and are load-rated for safety. The sleeve and eye design insures free movement of the wire rope for fast, smooth adjustment to all load sizes. Four sizes have safe working load capacities of 2500 to 8000 lb. • **American Hoist & Derrick Co.,** Crosby-Laughlin Div., Box 570, Fort Wayne, Ind.

▲ For more details circle NED-381 L on enclosed inquiry slip ▲

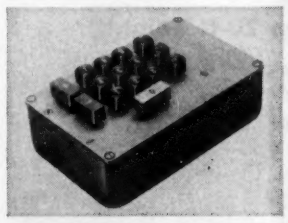
CUT-MACHINING UNIT
produces micro-finish surfaces



Oscilla-Modular cut machining unit will cut at a rate of 4 to 10 sec per square inch of material, depending upon its composition. Eight-inch solid high alloy bars are cut with Profilometer readings as fine as −32. Machine is made in 16, 18, 20, 26, and 34-in. wheel sizes. Maximum capacity on the largest machine is 8 x 8 in. Oscillation is manual or by Bellows air motors with 5/8 to 6-in. adjustable strokes at speeds up to 100 strokes per minute. Coolant is pumped through a three-way distributing system at up to 45 gpm. Basic dry machine can be equipped with manual or air powered oscillator, wet cutting, 30-gpm circulator, air power counterfeed, and larger motor for wet cutting. • **Wallace Supplies Mfg. Co.,** 1304 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle NED-382 L on enclosed inquiry slip ▲

ELECTRONIC KEYBOARD
contactless switching is noiseless



Switching in this 600-milliwatt electronic keyboard is accomplished without metallic contact and is thus smooth and quiet. Made with any number of keys and any type of coding, keyboard is applicable to any keyboard-operated device. Operating on direct-current, it produces a coded dc output. Trigger, pulse generator, multivibrator, memory, and other circuits can be introduced to derive desired output characteristics. Other than pushbuttons, keyboard has no moving parts and is reliable in extreme environments. • **Amelco, Inc.,** 12964 Panama St., Los Angeles 66, Calif.

▲ For more details circle NED-383 L on enclosed inquiry slip ▲

MARTIN-DECKER REMOTE INDICATING
"SENSATER" Crane Scale

Accurate, convenient "eye-level" reading regardless of load or hook height. Available for a fixed installation or hand truck mounted for portability. The reliable, time-proven "Sensater" load element, connected to a full-scale, remote dial by up to 50 ft. of flexible double-wire braid hose, brings overhead weighing indication where you want it. Capacities 1,000 lbs. to 50,000 lbs.

MARTIN-DECKER "SENSATER" CRANE SCALE

Compact, low headroom loss, Crane Scale. High safety factor, low cost, light weight, accurate. Ideally suited for overhead weighing where operator has easy access to the indicator. Weigh during the normal handling operation, not as a separate, time-consuming function. The money saved is yours. Capacities 1,000 lbs. to 50,000 lbs.

Low Cost ■ Easy to Read ■ Compact ■ Easy to Handle
High Safety Factor (5 to 1) ■ Lightweight ■ Accurate

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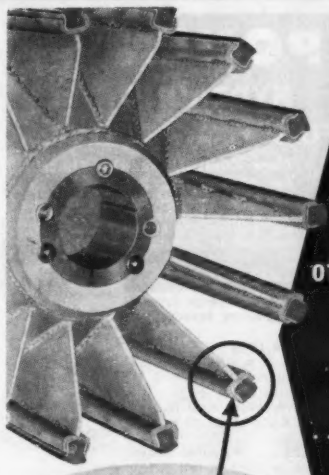
WRITE FOR DESCRIPTIVE BULLETIN S-34
MARTIN-DECKER CORPORATION
3431 CHERRY AVENUE, LONG BEACH 7, CALIFORNIA

Precision Pressure Instruments—Testing—Weighing—Load and Force Measurement.

▲ For more details circle NED-384 L on enclosed inquiry slip ▲



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AT THE
DRIVE ..... END
with the NEW
"RUBBER LAGGED"
TURN-CLEAN PULLEY

VAN gorp MFG., INC. Dept. NED Pella, Iowa

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Bulletin MSLB-2 contains complete details on Whitney MSL Chain—the lubricated-for-life chain built to out-perform any other chain. Send for your copy today.

THE WHITNEY CHAIN COMPANY
a subsidiary of FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Chicago 9, Ill.

POWER TRANSMISSION DRIVES

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NEW! the *DUO-FAST* S-762 Staple Gun

5 times faster than hand nailing!

Staple-nailing with this new S-762 is speedy, automatic, efficient. It wallops home heavy, 16-gauge staples, as long as 1½", at 60 pounds air pressure.

Use this portable, one-hand staple-nailer on crates, assembling boxes, making expendable skids, and many other nailing jobs. It's a money saver!

Send for Bulletin FT-43 on the new, fully guaranteed DUO-FAST S-762 Staple Gun. Just one of the 150 DUO-FAST models.

DUO-FAST / FASTENER CORPORATION
3708-06 River Road
Franklin Park, Ill.

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Rubber or Plastic Parts Produced by the Hundreds or by the Millions

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

WE CAN produce in quantity any part made of molded solid rubber (illustrated) or of extruded flexible vinyl plastic. We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

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Tougher... Lighter... Smaller

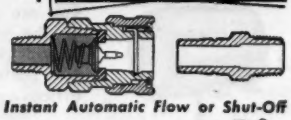
handles more air with minimum pressure drop

Has fewer parts. Locking ring provides positive lock... tight fit... minimum wear. Equipped with automatic sleeve lock.

Handles any job in your shop using ¾" to ⅛" connections—from the air line to the air tool—eliminates any need for various size couplings in hook-up—makes it easy to keep stock of parts in balance—holds inventories to a minimum.

All Series 2-RL Sockets and Plugs are completely interchangeable—likewise all larger Series 3-RL Sockets and Plugs.

HANSEN SERIES RL QUICK-CONNECTIVE RING LOCK COUPLING



Instant Automatic Flow or Shut-Off

Write for Catalog — a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

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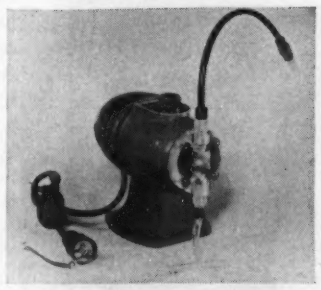
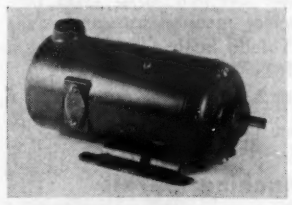
WATER SOLUTION FEEDER to control corrosion, prevent scale



Proper proportion of hypochlorite or complex phosphate solutions are fed to water systems by this No. 88 solution feeder to correct water troubles, control corrosion, or prevent scale formation. It will also feed many other chemicals into any line under suction or pressures to 100 psi. The 115-v motor plugs into any outlet. Usable indoors or outside, it has corrosion resistant parts. • **Calgon Co.,** Hagan Center, Pittsburgh 30, Pa.

▲ For more details circle NED-391 L on enclosed inquiry slip ▲

TACHOMETER GENERATORS have outputs of 20 v per 1000 rpm



Speed indication for nearly any machine tool or industrial process involving speeds up to 5000 rpm is provided by these improved alternating and direct current tachometer generators. Easier to install than previous models, they have versatile base mounts. A roomy terminal box is opposite the pulley end. The alternating current model has six poles instead of two, so that minimum full scale speeds now range as low as 0 to 300 rpm. Both models have rated output of 20 v per 1000 rpm. • **General Electric Co.,** 1 River Rd., Schenectady 5, N. Y.

▲ For more details circle NED-392 L on enclosed inquiry slip ▲

UNIVERSAL PRESS FEEDER handles up to 5-lb single parts

Production stamping operations on workpieces weighing up to 5 lb are possible at speeds up to 3600 per hr with this universal press feeder. Usable with any punch press, it carries parts to dies with suction cups at any desired speed. Changeover for different shapes is easy. Adjustable vertical lift from ¼ to 3 in. assures accurate transfer of parts. Provision is made for use of an electric eye to stop the press automatically if the part is not ejected from the die. • **Special Machinery Co.,** 199 Bay St., Toronto 1, Ontario, Canada.

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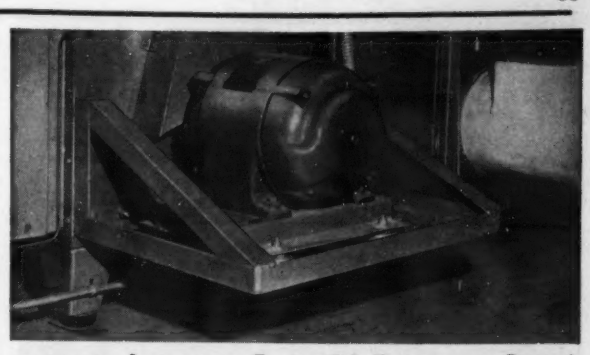

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Warehouses, Factory Representatives, Distributors in Principal Cities.

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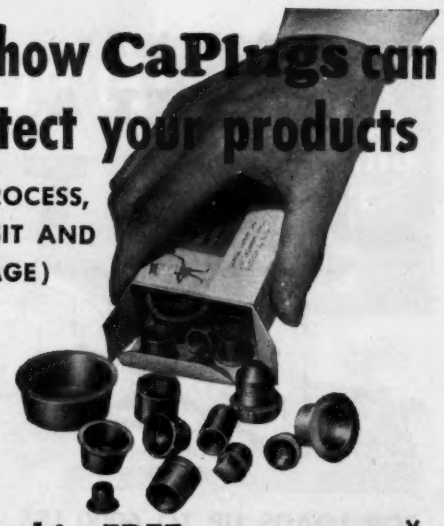
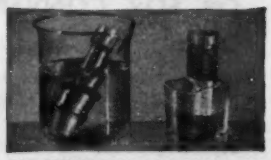
see how CaPlugs can protect your products

(IN PROCESS, TRANSIT AND STORAGE)



test this FREE assortment*

SEE HOW EASY THEY SLIP ON...AND OFF! Made of tough, flexible Polyethylene, tapered (non-threaded) CaPlugs can be used as caps or plugs, inside or outside of threaded or plain fittings. Threaded styles are knurled to spin on or off with ease. Costing less to buy, they cost less to apply.



SEE HOW THEY WITHSTAND ACIDS, SOLVENTS, HEAT AND COLD... and keep out dust and moisture, too. Dunk a CaPlugged product in any solution. CaPlugs are impervious to most common chemical reagents, acids and solvents... withstand temperatures from −94°F. up to 175°F.

SEE HOW TOUGH THEY ARE. For proof, drop a product on its CaPlug... tap it with a mallet... or make a trial shipment of parts with CaPlugs applied. You'll find that these versatile closures provide "kid-glove" protection and will not collapse, chip, break or shred under the most severe of conditions.

***YOU'RE INVITED TO TEST Ca Plugs** in any way you choose. Ten different styles are promptly available in over 500 stock sizes. The coupon below will bring you a random assortment plus illustrated literature. Additional samples in specific sizes for testing are also yours for the asking (details in literature).

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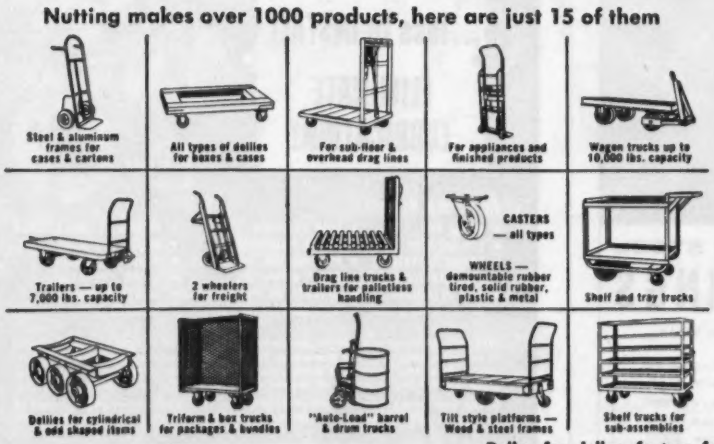
the widest choice of floor trucks in the world can cut your costs!

Nutting makes over 1000 products, here are just 15 of them



For regular or "special" design floor trucks it pays to talk to Nutting *first*. Here's why: no other company makes more models, sizes or combinations of equipment than Nutting. Many times items which you may find listed as "specials" with other makes are regular equipment in Nutting's complete line. As a result you get "custom built" type trucks at production line prices from Nutting. You not only get overall lower prices; you also get the benefit of 68 years of experience, design "know-how" and modern manufacturing skills. To save valuable hours of your time and get the right equipment for your plant, talk to a Nutting representative *first*, for all your floor truck needs!

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CASTER AND FLOOR TRUCK

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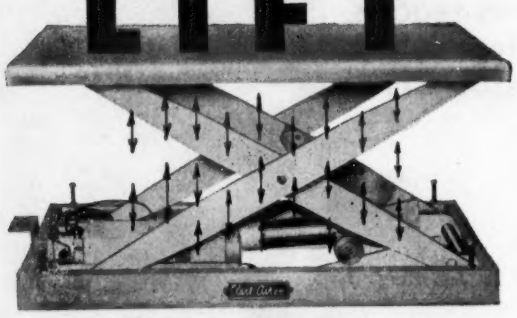
EASY WAY TO GET A LIFT



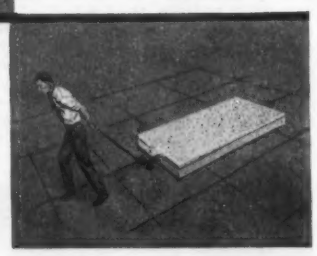
FOR LOADS UP TO 6000 LBS.—IN MATERIALS HANDLING SYSTEMS OR FOR CONVENIENT PORTABLE USE

Standard sizes afford a wide selection of heights that readily adapt them to changing requirements—from floor level to a height of 48" and will lift up to 6000 lbs. depending on the unit. Control is fast and sure for any height positioning and with electronic accessories automatic positioning is available. Special cradle tops are available for handling paper rolls and other cylindrical materials.

Clark-Aiken STANDARD LIFT TABLES

FLOOR LEVEL INSTALLATIONS WITH SAFETY TOE GUARD

Tables may be flush floor mounted with disappearing toe guards for safe operation.



EASY TO MOVE FOR PORTABLE USE

Portable unit is wheel mounted; makes easy mobility around the shop for your requirements.

Send today for informative bulletin. Tell us your requirements and we will recommend table size.

THE *Clark-Aiken* COMPANY
105 HART ST. LEE, MASSACHUSETTS

Canadian Representative: Gordon W. Keates
133 Flora Drive, Scarborough, Ontario

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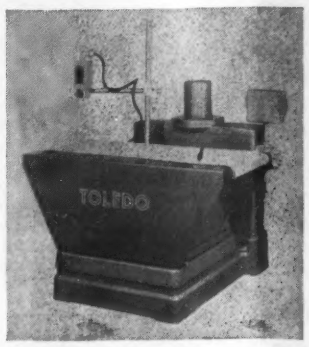
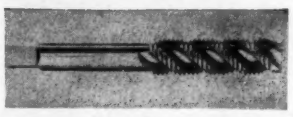
AUTOMATIC CHECKWEIGHER for 2 to 25-lb packages



Maximum package size of 12 in. long by 12 in. wide and weighing 2 to 25 lb can be handled by the Model 9463 intermediate range automatic checkweigher. Normal checkweighing rate of 60 items per minute is increased with shorter length packages. Equipped with a motorized conveyor, it continuously handles bags, cartons, blocks, cases, tubes, or packages with equal speed and accuracy. Remote zone indication stations and a pilot light unit showing weight zones in which each item falls are options. Zones are adjustable from 1 to 6 oz. Magnetic impulse type counters can provide numerical data for controlling the packing or processing machine. Remote five-pen strip type recorder, and actuators for reject mechanisms and signals are also available. • **Toledo Scale Corp.**, Toledo Scale Div., 1213 Telegraph Rd., Toledo 12, Ohio.

▲ For more details circle NED-398 L on enclosed inquiry slip ▲

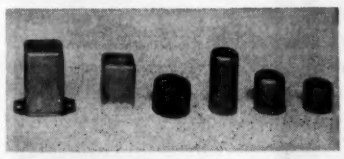
HELIX TAPS for difficult-to-machine metals



Precision tapping in difficult-to-machine metals is performed with Hi-Helix taps which are made in all regular sizes from No. 3 through ½ in. Accuracy is maintained even in deep holes interrupted by slots or keyways. Helix flute efficiently removes chips and minimizes tap breakage. • **Morse Twist Drill & Machine Co.**, 163 Pleasant St., New Bedford, Mass.

▲ For more details circle NED-399 L on enclosed inquiry slip ▲

MAGNETIC SHIELDS enclose separate subassemblies



Need to redesign in case of unanticipated magnetic interference is eliminated when Netic Co-Netic enclosures are used for temporary or permanent shielding of separate electronic subassemblies. The shields are slip-over type with lead holes and access plates. They can be supplied for high gain transistor amplifiers, miniaturized servo mechanisms, memory cores, and other data storage devices and components. Inasmuch as the alloys used are not shock sensitive and nonretentive, additional holes can be drilled in the shields without sacrificing shielding effectiveness. • **Perfection Mica Co.**, Magnetic Shield Div., 1322 N. Elston Ave., Chicago 22, Ill.

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PARKERIZED FITTINGS

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Now available! A complete line of Parkerized Fittings from the same reliable source that has supplied you with high-pressure Unions and Valves since 1912. Corrosion-resistant in stock or on the job, these clean-looking fittings are available in sizes from ⅛" to 4". Pressure ratings are 2000, 3000, 4000 and 6000 psi. Order from your local Clayton Mark Distributor today!

CLAYTON MARK AND COMPANY
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add years of

RUST-FREE LIFE

to your plain

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line them with

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hydraulic cement formula

PRE-KRETE is the corrosion resistant cement lining with special additives and intimate blending of all ingredients. It won't permit corrosion, won't crack, won't chip, won't color or flavor water. It adds years of rust-free life to plain steel vessels. It lowers maintenance costs appreciably. Available from a nation wide network of franchised applicators. Send for FREE booklet on PRE-KRETE. Address—

Division of The Patterson-Kelley Co., Inc.

pocono fabricators inc.

East Stroudsburg, Penn.

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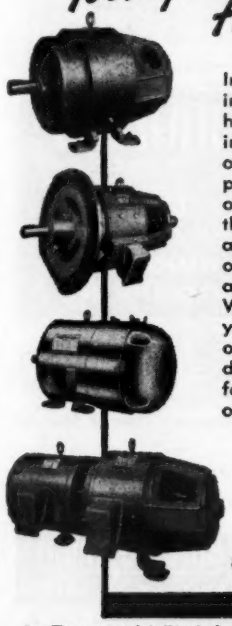
IMPERIAL D-C MOTORS

for Dependable Heavy-Duty Service



Imperial D-c Motors meet the ever-increasing demand for dependable, heavy-duty drives in nearly every industry today. Over seventy years of d-c design and application experience is behind the manufacture of these motors. Ratings from 1 through 125 hp., for constant or adjustable speeds with shunt, series or compound windings are available in all standard enclosures. When you choose **The Imperial Line** you are assured of motors that stay on the job longer . . . keeping production high at lower costs. Write for bulletin or contact the sales office nearest you.

IMPERIAL
ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

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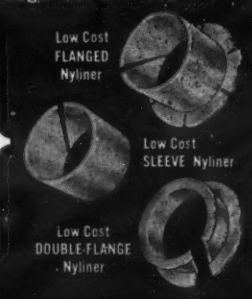
THOMSON "Snap-In" NYLINERS

—BEARINGS of smooth, tough DuPont NYLON

COST less to BUY ...less to INSTALL ELIMINATE LUBRICATION!



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NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also—Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions and AD CAST . . . Hardened & Ground Steel Shafting

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Here's a 12 foot conveyor stacking Wheaties 16 feet high!
Swivels in and out of narrow aisles.
We can help solve your problem too . . . May we tell you more?

NEW LONDON ENGINEERING CO.
Dept. NED New London, Wisconsin

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IMITATED BUT NEVER EQUALED

MODEL 3000-30
With Cable
Return Crank
1½ TON CAP.
30 FT. AIRCRAFT CABLE
Weight 14 lbs.
Price $56.20

The LUG-ALL
WINCH HOIST

Lifts—lowers pulls—stretches moves—tightens straightens & bends at any angle!

Overstrength aluminum alloy frame. Preformed high-strength flexible aircraft cable. Many other outstanding features.

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CAPACITIES
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THE LUG-ALL® COMPANY
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LUG-ALL HOISTS HAVE BEEN USE-TESTED SINCE 1949

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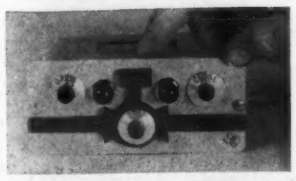
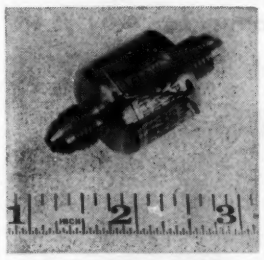
REMOTE CONTROL UNIT
for valves, motors, blowers, pumps



Remote open-stop-close or on-off control and status indication of power-operated devices is provided by the remote indicating control unit. Designed for use with valves, motors, blowers, pumps, and other devices, it requires only two wires between the remote point and the central control location. Unit has a graphic symbol front cover for use in a central display panel. The remote point chassis is usually mounted in the controlled device housing. Maximum loop line resistance may be as high as 100 ohms for incandescent indicators or 2000 ohms for high intensity neon indicators. The standard field unit will control up to 2-amp coils at 480 v. • **Texas Instruments Inc.**, Geosciences & Instrumentation Div., Instrumentation Product Group, 3609 Buffalo Speedway, Houston 6, Tex.

▲ For more details circle NED-408 L on enclosed inquiry slip ▲

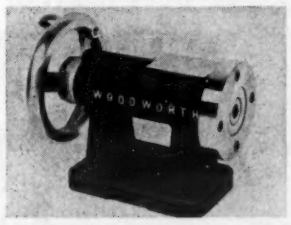
WOVEN WIRE MESH FILTERS
removal ratings are 1½-149 microns



Inlet and outlet connections located on the axis of the sinter bonded woven wire elements are a feature of this line of filters in standard sizes for ⅛ to 12-in. pipe or tube. Line includes over 225 items of 20 basic types with removal ratings from 1½ to 149 microns. Fluids from cold gases to viscous polymers may be handled over a −320 to 1000° F range. Elements are made of Rigimesh sintered woven wire mesh or Supramesh medium which consists of Rigimesh with a layer of porous metal sintered to its upstream face. Housings are aluminum, stainless steel, Monel, and other metals. A device which indicates when the element requires changing is optional. • **Aircraft Porous Media, Inc.**, 30 Sea Cliff Ave., Glen Cove, N. Y.

▲ For more details circle NED-409 L on enclosed inquiry slip ▲

PRECISION SPINDLE
for inspection operations



Used in combination with arbors, diaphragm chucks, and collet arbors, this Zero Spindle is an extremely accurate inspection tool. Concentricity is within 0.0001 in. It has a cast bearing block which permits the addition of a small base and tray top for indicator mount assemblies. A single screw adjusts the journal, and a large handwheel and knob simplify use. • **N. A. Woodworth Co.**, 1300 E. Nine Mile Rd., Detroit 20, Mich.

▲ For more details circle NED-410 L on enclosed inquiry slip ▲

956
different
motorized
speed reducers

available from stock

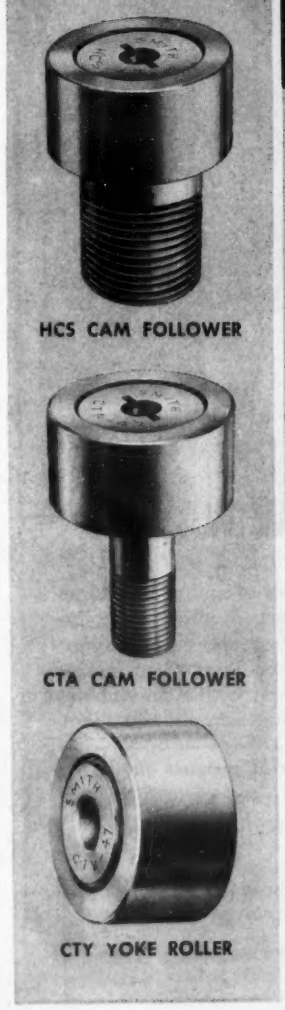
Yes! 956 different combinations of Perfection Motorized Worm Gear Speed Reducers are available for immediate delivery, *from stock*. Ratios range from 5 to 1 to 60 to 1, in capacities from ⅙ H.P. to 5 H.P. Perfection "C" Flange Reducers may be ordered complete with motor or without motor, to be used with a motor *of your own choice*. Write for free copy of our new 28 page catalog No. M-140.

Licensed under Pat. 2,868,031

AMERICAN STOCK GEAR DIVISION
PERFECTION GEAR COMPANY HARVEY, ILLINOIS

▲ For more details circle NED-411 L on enclosed inquiry slip ▲

SMITH



CAM FOLLOWERS AND YOKE ROLLERS

Precision Made For Precise Performance

Each component of Smith Cam Followers and Yoke Rollers is carefully engineered, machined and finished to the most exacting standards and dimensions. As a result, each Standard Smith Cam Followers and Yoke Roller is identical to all others of the same series and size.

Such uniformity of product results in equal uniformity of performance.

Standard Smith "CTA" (interchangeable) or "HCS" (High Capacity Stud) Cam Followers and "CTY" Yoke Rollers, assure you of outstanding performance with long, trouble-free life.

Special Smith Cam Followers and Yoke Rollers to suit special applications are supplied promptly.

Better distributors throughout the nation stock and sell Smith Cam Followers and Yoke Rollers.

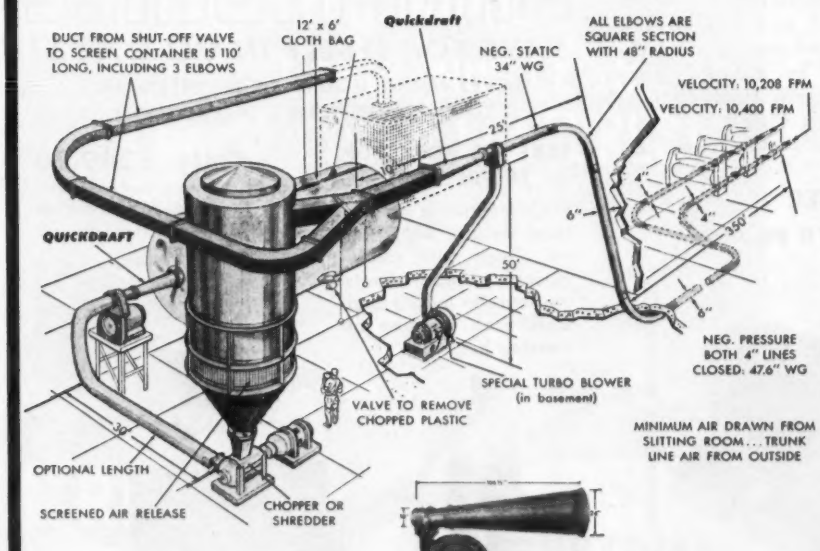
Write for your new, quick reference data sheets.

SMITH BEARING DIVISION
Accurate Bushing Company
441 North Avenue, Garwood, New Jersey

Manufacturers of: Needle Bearings, Cam Followers, Yoke Rollers, Jet Engine After Burner Rollers and Bearing Assemblies, N. A. S. Standard and Special Bearings, High Temperature and Severe Wear Precision Parts.

▲ For more details circle NED-412 L on enclosed inquiry slip ▲

9011-QD



Schematic of an actual installation in which 26 separate 2" trim strips of extremely tough .010" gauge plastic film are removed from 13 slitters at 3,000 FPM rate per machine. Individual machines can be stopped or started without affecting system's efficiency.

Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

Quickdraft units with extremely high negative pressures are available in 4½" to 30" diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

PROBLEM: High volume removal and disposal of tough plastic film trim

SOLUTION:
Quickdraft
VACUUM SYSTEM

Quickdraft high-pressure vacuum systems are solving many difficult materials handling problems. System illustrated could be adapted to convey any bulk, powdered or granular material that can be moved by air. And because of *Quickdraft's* patented design, savings in labor, maintenance and replacement costs frequently pay for *Quickdraft* units in 12 to 24 months.

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.

Quickdraft
CORPORATION
P. O. BOX 87-L • CANTON 1, OHIO

▲ For more details circle NED-407 L on enclosed inquiry slip ▲

Great Excitement Over the Amazing

ALL NEW WAYNE Power Sweeper

no dust bag to empty!

Heart of the Filter-Vac Dust Control System. 300% greater filtering area.

...Obsoleting all other mechanical sweepers. *Filter-Vac Dust Control*, an exclusive Wayne feature, deposits dust directly into the dirt hopper automatically. With no old-fashioned dust bag to empty, the Wayne sweeps faster... cleaner... inside or out, at less cost. So before you buy any sweeper, get the facts about the all new Wayne years-ahead exclusive features.

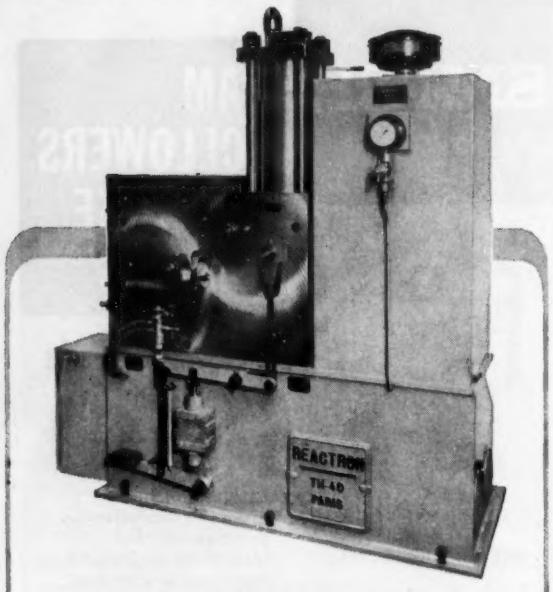
Largest Effective Hopper Capacity • Welded Steel Body • Quick Broom Change • Greater Horsepower • Automotive Foot Controls • Wrap-Around Bumpers • Vacuum Cleaning Attachment • A Size and model for every need—L.P., Gas, Electric.

WAYNE MANUFACTURING CO.
2379 E. Lexington Street
Pomona, California

Send for descriptive literature or ask for a demonstration.

World's largest producer of Power Sweepers for cities and industries.

▲ For more details circle **NED-413 L** on enclosed inquiry slip ▲



YOU SAVE MONEY BY CUTTING BAR STOCK THIS NEW WAY!

Standard bar stock shapes of any of the structural metals, including carbon, alloy and stainless steel; nickel alloys; brass; aluminum bronze; aluminum alloys; titanium and other metals are cleanly and squarely cut without metal loss with the **Reactron.** Savings can amount to:

- 10% of cost of material because preannealing is unnecessary.
- 15% of material weight because there is no metal loss.
- 85% of tooling costs because no saws or grinding wheels are employed.
- 85% of job costs because secondary operations are eliminated.

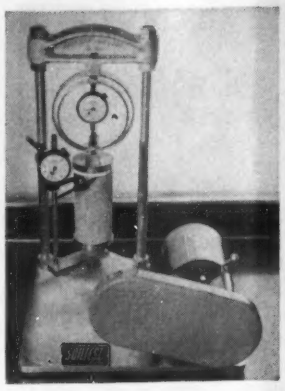
Reactron is built in three capacities to handle up to 1, 2, and 2¾" bars. Depending on the alloy, revolutionary torque-action **Reactron** will cut cold metal in lengths as small as ⅓ the bar diameter or less.

Salem-Brosius, Inc.

PITTSBURGH, PENNSYLVANIA

▲ For more details circle **NED-414 L** on enclosed inquiry slip ▲

COMPRESSION TESTER
accommodates 3 x 8-in. specimens



Compression and crushing tests can be performed on small metal, ceramic, wood, and plastic parts; paper boxes; containers; and springs with Model U-163 compression tester which requires only 1 sq ft of bench or desk space. The lightweight aluminum apparatus accommodates specimens with diameters to 3 in. and 8 in. high. Other specimen sizes are handled by substituting larger platens. Tester is powered by variable speed motor drive and measures test loads accurately to 0.1 lb or less by means of proving ring assembly with 500-lb load capacity. Dial indicates strain on test material. • **Soiltest, Inc.**, 4711 W. North Ave., Chicago 39, Ill.

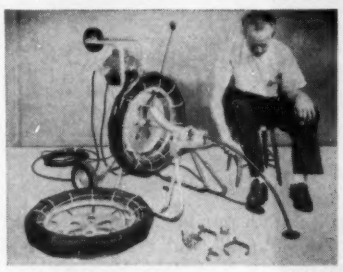
▲ For more details circle **NED-415 L** on enclosed inquiry slip ▲

RADIANT FOOT WARMER
UL-approved unit operates on 120 v

Constant 10° F increase in temperature at floor level is provided by this radiant foot warmer, suited for use where floors are cold, damp, or drafty. The UL-approved unit can be used safely in hazardous or wet areas. It is made of laminated Tempered Masonite and measures 20 x 24 x 5/16 in. Tan, gray, and natural brown Masonite colors are available for operation on 120-v 60-cycle ac. Price is $13.95, less in quantities. • **MacNeal & Dashnau**, Dept. 41-51, Ivyland, Pa.

▲ For more details circle **NED-416 L** on enclosed inquiry slip ▲

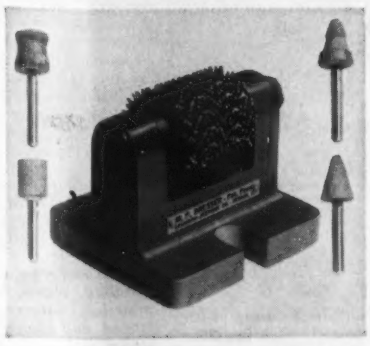
SEWER LINE CLEANER
services 165 ft of 3 to 6-in. lines



Interchangeable handle allows the Model 70 Powerfeed sewer line cleaner to be operated from the right or left side. Its automatic forward and reverse feed is equally effective in either direction in down, overhead, horizontal, or angular lines. The one-man tool will clean out 3 to 6-in. sewer lines up to 165 ft long. It features two lightweight quick-change cartridge drums which hold 55 ft of ¾-in. spring line. Conversion to ⅝-in. spring for 1½ to 3-in. lines is possible. Grease, rust, roots, scale, rags, and other foreign material are cleaned out and removed with 3, 4, and 6-in. cutters, spear, retriever, auger, root cutter, and saw cutter heads. Wheel mounted unit is powered by a G-E ½-hp, 115/230 v capacitor motor. • **Marco Products Co.**, 3416 Vineyard Ave., Los Angeles 16, Calif.

▲ For more details circle **NED-417 L** on enclosed inquiry slip ▲

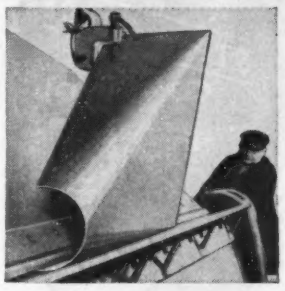
GRINDING WHEEL DRESSER
restores shape of worn points



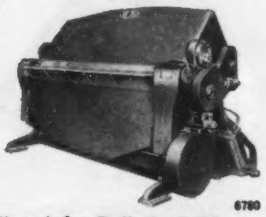
Original shape and grinding action of worn, loaded, and out-of-shape abrasive mounted points are restored with this grinding wheel dresser. The revolving mounted point is held against the thin gage star-type cutters until desired shape is restored. Dresser base measures 3¼ x 3 in. and can be bolted or screwed to a bench. Photo shows worn points at top and as they look restored, at the bottom. • **Desmond-Stephan Mfg. Co.**, Urbana, Ohio.

▲ For more details circle **NED-418 L** on enclosed inquiry slip ▲

Bending Steel Plates for WELDMENTS?
do it economically with
CHICAGO® BENDING BRAKE



The elimination of die costs and the ease of changing from one job to another make the CHICAGO bending brake the economical method for bending steel plates for weldments. An automatic stop regulating the degree of bend assures duplication on successive pieces.



Many standard sizes are available with capacities for bending mild steel up to 12 feet by ¼ inch or 16 feet by ½ inch.

6780

For details on how to do it, ask for Bulletin P-55

CHICAGO DREIS & KRUMP — Press Brakes • Straight-Side-Type Presses • Press Brake Dies • Hand and Power Bending Brakes • Special Metal-Forming Machines

DREIS & KRUMP MANUFACTURING CO.
7436 South Loomis Boulevard, Chicago 36, Illinois

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VALUABLE GUIDE

selects the right lock washer every time

get your copy today!

Shows why Shakeproof® Lock Washers lock tight... *stay* tight! Describes complete line and illustrates types and sizes for every need. Contains helpful data on applications and ordering. Write for your free copy now.

SHAKEPROOF "FASTENING HEADQUARTERS"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

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SHOPMOBILE
PAYS FOR ITSELF IN 90 DAYS!
SAVES MANY HOURS OF MAINTENANCE TIME — SAVES TRIPS — SPEEDS WORK

TAKE THE WORKSHOP TO THE WORK

Only $249.00
F.O.B. Factory, Cardington, Ohio
Ready to Operate
Finish Painted

SHOPMOBILE is an all-steel welded workshop on wheels with roomy storage compartments that can be locked and workbench surfaces at working height.

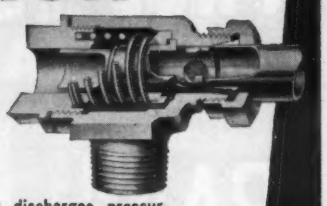
Free-rolling solid rubber tires

MECHANIZE YOUR MAINTENANCE DEPARTMENTS! WRITE TODAY FOR FULL INFORMATION.

STAHL METAL PRODUCTS, INC.
4750 W. 160th St. • Cleveland 35, Ohio
TELEPHONE: Winton 1-2377

▲ For more details circle **NED-421 L** on enclosed inquiry slip ▲

split-second air dumping with... FAWICK quick release valves



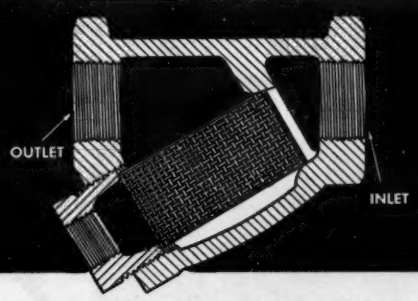
- Instantaneously discharges pressurized air from any pneumatic pressure system
- Fast, positive valve actuation by pressure differential
- Precision built, self cleaning, never needs lubrication
- Available in ⅜" to 1" sizes (outlet pipe thread)

Specify them for "quick-release" of pressurized air.

FAWICK AIRFLEX
FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 Clinton Rd., Cleveland 11, Ohio
In Canada, Fawick Canada, LTD., Toronto

▲ For more details circle NED-422 L on enclosed inquiry slip ▲

Low Cost ANDERSON STRAINERS prolong life of pipeline equipment

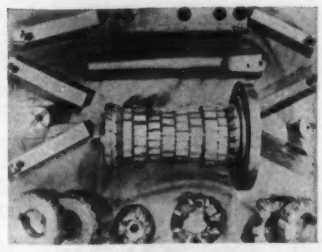


A few dollars spent on Anderson Strainers can eliminate costly repairs and replacements of pipeline equipment. Mesh type stainless steel screens lengthen the time interval between cleaning. Strainer bodies are made of cast semi-steel, withstanding steam operating pressure of 250 P.S.I. and maximum temperatures of 450° F. You'll like them! Write for Bulletin #34 today.

THE V. D. ANDERSON COMPANY
division of
INTERNATIONAL BASIC ECONOMY CORPORATION
1988 West 96th Street • Cleveland 2, Ohio

▲ For more details circle NED-423 L on enclosed inquiry slip ▲

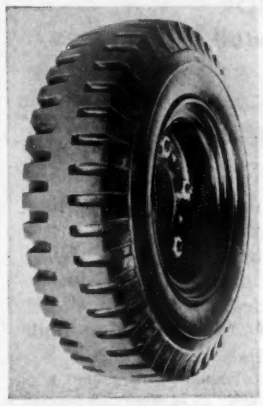
CUTTING TOOLS of powdered metal damp vibration



Long tool life, high rate of metal removal, and increased feed rates are advantages reported for Ferro Damp single point, cutoff, and milling cutters. Tools are made of copper infiltrated powdered iron and have a grain structure that permits the absorption of vibration to lengthen tool life and improve surface finish. Throw-away carbide, ceramic, and Cermet cutting elements are available for these tools and are mechanically locked into the shank or body. They require only the initial grinding when first installed. Mill cutters, gang cutters, single points, and boring bars are shown in photo. • Ferro Powdered Metals, Inc., Salem, Ind.

▲ For more details circle NED-425 L on enclosed inquiry slip ▲

OFF-THE-ROAD TIRE for fork trucks, dumpers, cranes



Puncture, cut, and abrasion-proof in foundry, scrap yard, steel mills, and other off-the-road uses, the Grizzley tire is made of homogenized Tough Flex. This material consists of virgin rubber and nylon, molded in a uniform mixture and requiring only two light, flexible wire bands for reinforcement. Although solid, the tire's soft ride protects equipment from shock. It is suited for use on fork trucks, front dumpers, cranes, and other equipment. Available sizes fit standard pneumatic rims. They are easily mounted or are sold mounted. • Bearcat Tire Co., 442 W. Garfield Blvd., Chicago 9, Ill.

▲ For more details circle NED-426 L on enclosed inquiry slip ▲

PLASTIC SPRAY NOZZLE affords high heat resistance

Durability and unusual heat resistance are inherent in this polypropylene plastic spray nozzle for cooling towers, evaporative condensers, spray humidifiers, air washers, spray ponds, and other industrial applications. Because nozzles have no vanes, cores, or other obstructions, they do not clog. Inside surfaces are rounded to minimize mineral deposit build-up. • Delavan Mfg. Co., 811 Fourth St., West Des Moines, Iowa.

▲ For more details circle NED-427 L on enclosed inquiry slip ▲

USG BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

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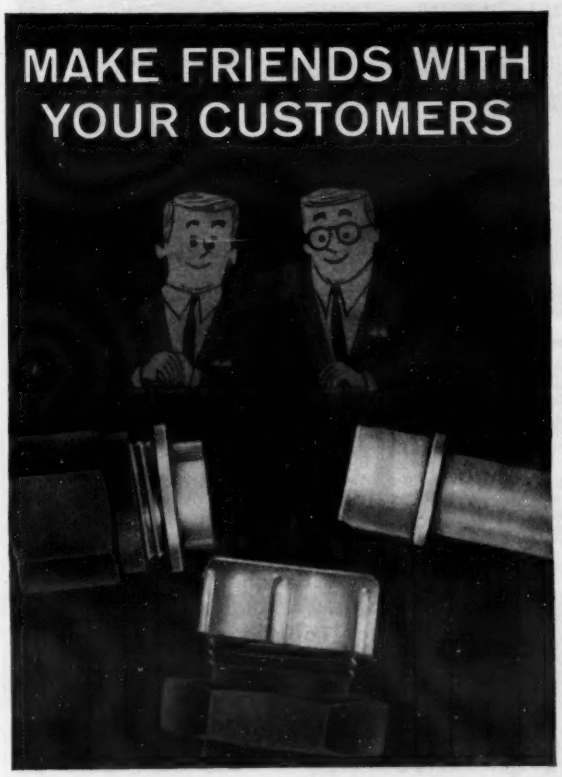
MAKE FRIENDS WITH YOUR CUSTOMERS



By protecting your products with S. S. White Plastic Protectors

Here's a way to *keep* your customers happy . . . protect your products with S. S. White plastic protectors. Puts a stop to complaints about delay and expense caused by damage to your products in shipping or storage.

Two lines to choose from:

S. S. White Quality Line . . . rigid acetate for *outstanding impact resistance* . . . impervious to oils, greases, alkalies, and other corrodents. Cleanly threaded for positive sealing of fluids or protection against dirt, dust, contaminents. Remove quickly by hand. Non-shredding too.

S. S. White Economy Line . . . elastic vinyl material has a rubber-like, non-waxy, easy-to-grip surface that takes a lot of punishment. Makes your installation easy and removal (your customer will like *this*) a matter of a fraction of a second. Won't leave any shreds behind either.

S. S. White plastic protectors are a form of customer good-will insurance that costs only pennies to obtain!

1112

WRITE FOR FREE SAMPLES
and Bulletin 5708!

S. S. White PLASTICS DIVISION
Dept. 7P, 10 East 40th Street, New York 16, N. Y.

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Gives You MORE, Costs You LESS Check all the FEATURES!*

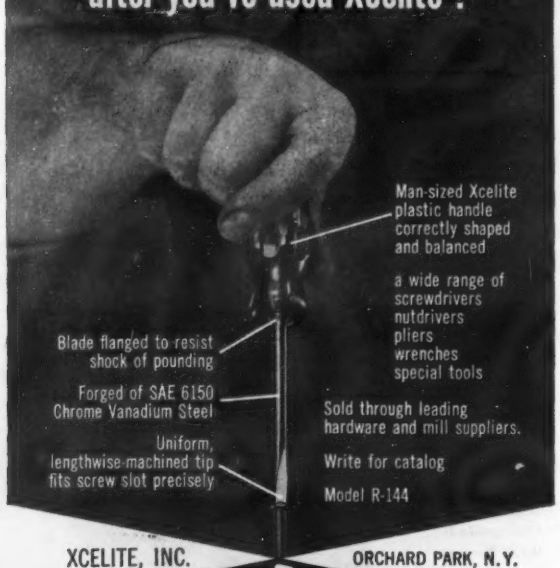
- ALUMINUM construction...rustproof... corrosion-resistant. Eliminates need for expensive, heavy structural design in filter bank construction.
- EASY TO HANDLE Light-weight permits carrying, washing and installing of many more filters per hour.
- EASY TO CLEAN Lint and dirt are easily flushed off with water because of water soluble Super Filter Coat (the adhesive with the built-in detergent).
- DEPTH LOADING Designed to minimize surface loading, with depth loading accomplished through successive layers of slit and expanded aluminum, and varying baffle sizes.
- REMOVES ODORS Revolutionary R P Super Filter Coat adhesive adds odor removal to the normal dirt-trapping properties of R P Industrial Air Filters—with no increase in resistance—at *no* extra cost!
- GERMICIDAL Super Filter Coat adhesive contains Hexachlorophene, the well-known bacteria destroying agent.
- LOWER RESISTANCE Unique baffle design permits maximum air passage...more uniform dust collection within the filter depth.
- HIGHER EFFICIENCY Scientifically staggered pattern of flat baffles sets up a controlled turbulence that centrifuges dust and odor particles onto the adhesive for maximum efficiency.

RP Multi-Velocity INDUSTRIAL AIR FILTER
FOR HEATING OR AIR CONDITIONING
RP Products of Research

for information, write... RESEARCH PRODUCTS Corporation Dept. 445-K, Madison 1, Wis.

▲ For more details circle NED-424 L on enclosed inquiry slip ▲

no other driver "feels" quite right after you've used Xcelite !



XCELITE, INC. ORCHARD PARK, N.Y.

XCELITE Canada: Charles W. Pointon, Ltd., Toronto, Ont.

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Bench Tops

LAMINATED HARD MAPLE

Steel bench bases, legs and drawers available for use with Tolco Tops. Write for complete illustrations and prices.

ESTABLISHED 1894

THE TOLERTON COMPANY

265 N. FREEDOM AVE. · ALLIANCE, OHIO

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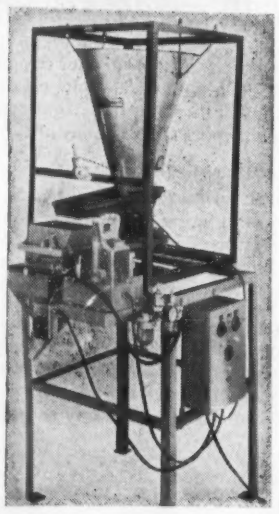
NET WEIGHING MACHINE

Over-under indicator provides constant visual check on package weight



This machine's Exact Weight precision scale, with visual indicator, provides a continual reference for fast and accurate adjustment. Eliminates spot checking. Vibratory feed has two speeds, fast to trickle, to assure accurate fill. Weigh hopper is air-cylinder operated. Model 620 NW has 10 lb. capacity; 610 NW, 3 lb.

Other types of weigh feeders, sackers and precision scales available in capacities for a wide range of weighing and check weighing jobs. Write for Bulletin 3318.

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Sales and Service Coast to Coast

THE EXACT WEIGHT SCALE CO.

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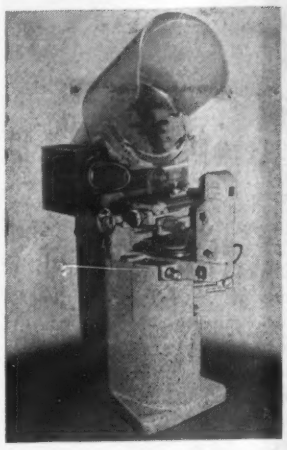
In Canada: 5 Six Points Road, Toronto 18, Ont.

BETTER QUALITY CONTROL...BETTER COST CONTROL

▲ For more details circle NED-432 L on enclosed inquiry slip ▲

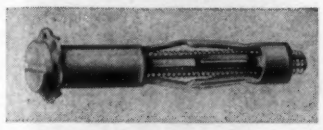
OPTICAL COMPARATOR
economy model has 5 to 125x lenses



Lateral, vertical, and angle measuring facilities are incorporated in the economy Model PC-14A 14-in. screen universal measuring and comparison machine. Direct reading measurements to 0.0001 in. can be made by the unit which includes fan cooled high intensity illuminating units and 5 to 125x Telecentric projection lenses. Comparator has three table styles and a work capacity of either 5 or 8-in. diameters with a maximum of 24 in. between centers. • **Jones & Lamson Machine Co.**, 160 Clinton St., Springfield, Vt.

▲ For more details circle NED-433 L on enclosed inquiry slip ▲

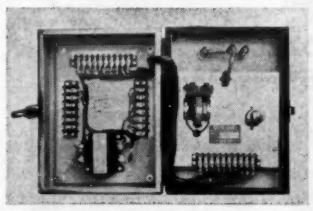
HOLLOW WALL ANCHOR
9 sizes for various wall thicknesses



Small hole is required by this Dazy hollow wall anchor for securing fixtures to wallboard, plasterboard, lath and plaster, tile plywood, and sheet metal. When installed, fixture can be removed and replaced as often as necessary without disturbing the anchor. Nine sizes accommodate various wall thicknesses and loads. Unusual rib design on underside of screwhead eliminates galling in installation. • **Arro Expansion Bolt Co.**, Box 388, Marion, Ohio.

▲ For more details circle NED-434 L on enclosed inquiry slip ▲

COMPRESSOR SAFETY CONTROL
regulates water flow to compressor



Automatic regulation of water flow to an air compressor to guard it against overcooling, overheating, low water pressure, low oil pressure, or low oil level is function of Water Mizer Model A-15 safety control. It interlocks with the compressor motor starter and is used with sensing elements installed in the compressor's air, water, and oil systems. It can be used with solenoid valve and thermostat arrangement or with a self-powered modulating type valve. Terminals are provided for connection to remote warning signal devices. • **Van Vooren Products**, 2133 Ninth St., East Moline, Ill.

▲ For more details circle NED-435 L on enclosed inquiry slip ▲

New Ice Rem Super melts ice and snow fast!

Ice Rem Super melts ice and snow up to 30 times more effectively than other materials sold for the same purpose . . . provides 40% greater quantity at no extra cost.

Composed of thin, crystalline chips, Ice Rem Super has an almost unlimited number of "active" faces. When in contact with ice, these faces immediately generate heat and melting action begins. Also, unlike pelletized products, Super stays put on steps, walks, ramps — any surface upon which it is applied.

Another important Ice Rem Super feature is extreme lightness of the material. One lb. of aerated Ice Rem Super is 40% greater in bulk than one lb. of old style pellets. This results in substantial savings in the quantity of material required for effective ice melting.

Ice Rem Super is pure white. It leaves no messy residue. It will not discolor carpets, floors, tiles, etc. Like other Speco ice melters it contains Speconite rust inhibitor and Eo. The latter, a combination of special essential oils, creates a moisture seal within the container to maintain chemical stability.

Ice Rem Super is packaged in 100-200-300 lb. fiber drums. In ton lots, shipments are made in 80-lb bags. For complete Ice Rem Super data, write **Speco, Inc., 7308 Associate Ave., Cleveland 9, Ohio. Ask for bulletin LL-8316.**

Send for United States Testing Co. laboratory report No. 61167.

▲ For more details circle NED-436 L on enclosed inquiry slip ▲

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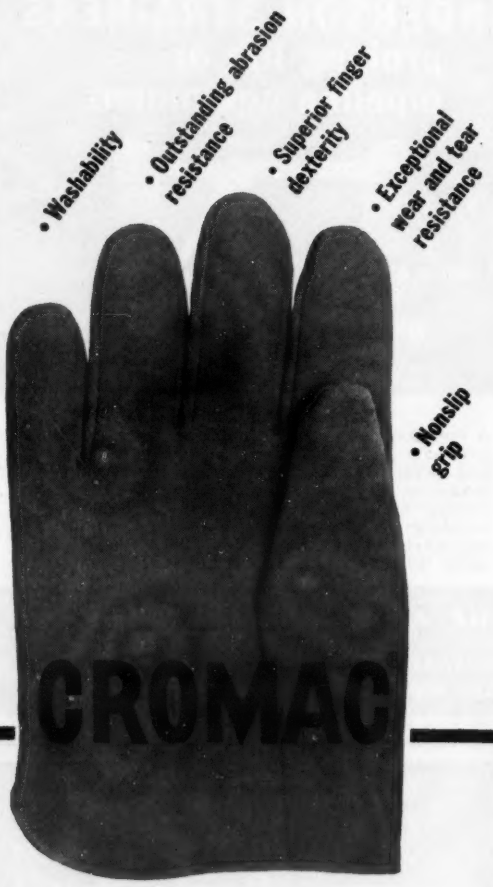

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Plastic-impregnated Cromac® gloves by Jomac that give unique 5-point glove performance

FREE SAMPLE PAIR will convince you . . . Cromac gloves by Jomac are all we say they are and more. Write Department G, Jomac Inc., Philadelphia 38, Pa.

JOMAC

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and small parts

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Westbury, Long Island, N. Y.

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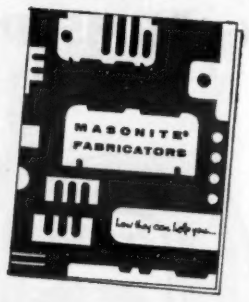
THIS FREE BOOKLET



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...describes all services of

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MASONITE® CORPORATION

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For the power you want . . . at the speed you need

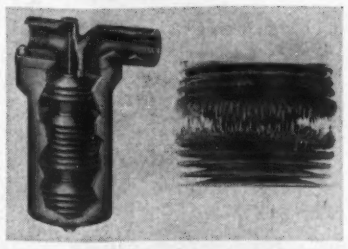
WAGNER GEARMOTORS

Use Wagner Gearmotors wherever you need "slower-than-motor speeds." Built to operate for years at peak efficiency, they have "high hardness" gears to provide greater power transmission capacity, longer wear life, greater resistance to shock. Motors and gear housings are of corrosion-resistant cast iron. Available with latest NEMA Frame open protected or totally enclosed fan-cooled motors. Contact your nearby Wagner branch, or write for Bulletin MU-227.

Wagner Electric Corporation WM60-8
6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

▲ For more details circle NED-441 L on enclosed inquiry slip ▲

MAGNETIC LINE STRAINERS
incorporate filter disc screens



Particles as small as 0.003 to 0.005 in. are trapped by these magnetic line strainers. They meet JIC specifications for magnets in hydraulic systems, and are suited for use in machinery lubrication systems, engines, mining equipment, oil filtration systems, and other types of equipment. Circular built-in Alnico magnets are placed between removable filter disc screens, providing two-way filtration for removal of both magnetic and nonmagnetic matter. Wide range of standard and special sizes is offered. ● **Ripley Screen & Strainer Co.**, Filter Div., 32749 Northwestern Highway, Farmington, Mich.

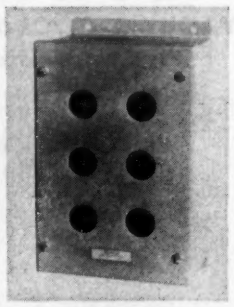
▲ For more details circle NED-442 L on enclosed inquiry slip ▲

PILLOW BLOCK
low cost unit for moderate loads

A pressed steel housing combined with a true self-aligning bearing affords low cost advantage in the medium-duty PBS pillow block. Unit accommodates shaft sizes from ½ to 1 7/16 in. and is suitable for use on fans, idler shafts, conveyors, and pump shafts where moderate speeds and moderate radial and thrust loads are encountered. Standard Fafnir rubber contact seal bearings with self-locking collars are used. ● **Fafnir Bearing Co.**, 37 Booth St., New Britain, Conn.

▲ For more details circle NED-443 L on enclosed inquiry slip ▲

PUSHBUTTON STATIONS
oiltight type made of 14-gage steel

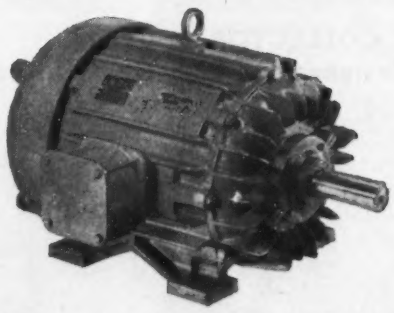


Sizes holding from 1 to 56 units are available in this line of pushbutton stations, suited for vertical or horizontal mounting. The 14-gage steel enclosures have welded seams and will mount any standard size pushbutton, pilot light, or selector switch. They meet JIC and NMTBA standards. Slide and swing hinges allow easy removal of the cover, gasketed to prevent entry of oil and coolant and secured by captive screws. Enclosures also have external mounting feet and sufficient space for tandem mounting of contact blocks. Control stations can be assembled to specific requirements. ● **Gemco Electric Co.**, 25685 W. Eight Mile Rd., Detroit 40, Mich.

▲ For more details circle NED-444 L on enclosed inquiry slip ▲

For extra protection against corrosive, abrasive . . . or explosive elements

WAGNER TEFC MOTORS
Standard or explosion-proof



Wagner Type EP Motors offer protection against corrosion, dust, abrasives, fumes, steel chips or filings . . . deliver full-rated horsepower under toughest service conditions to keep production rates up. Type JP is explosion-proof as well. Built in NEMA frame sizes from 182 through 445U, with ribs that add mechanical strength and increase surface cooling area. Type YP and ZP, tube-ventilated motors, are available in higher hp ratings. Contact your nearby Wagner branch office.

Wagner Electric Corporation WM60-7
6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

▲ For more details circle NED-445 L on enclosed inquiry slip ▲

WHY DO HYTROL CONVEYORS REPAY THEIR COST SO QUICKLY?

- Floor to floor models
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- Portable stackers and boosters

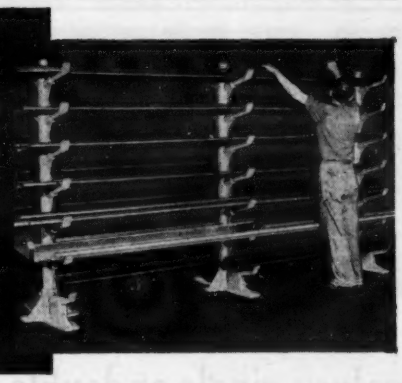
Situations vary in every plant—but by using HYTROL *standard unit* conveyors and systems you can get exactly the right unit or combination of units to meet your needs. RESULTS—(1) Fast material moving, (2) Time and labor savings, (3) Low initial cost . . . lower upkeep, (4) Quick repayment of costs. Find out for yourself!

Write for FREE ILLUSTRATED CATALOG showing complete Hytrol line

HYTROL CONVEYOR CO., Inc.
1965 S. 54th Street, Milwaukee 19, Wis.
Authorized Distributors in Principal Cities

▲ For more details circle NED-446 L on enclosed inquiry slip ▲

SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane—using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

▲ For more details circle NED-447 L on enclosed inquiry slip ▲

For protection against corrosion . . . protection against splashing liquids

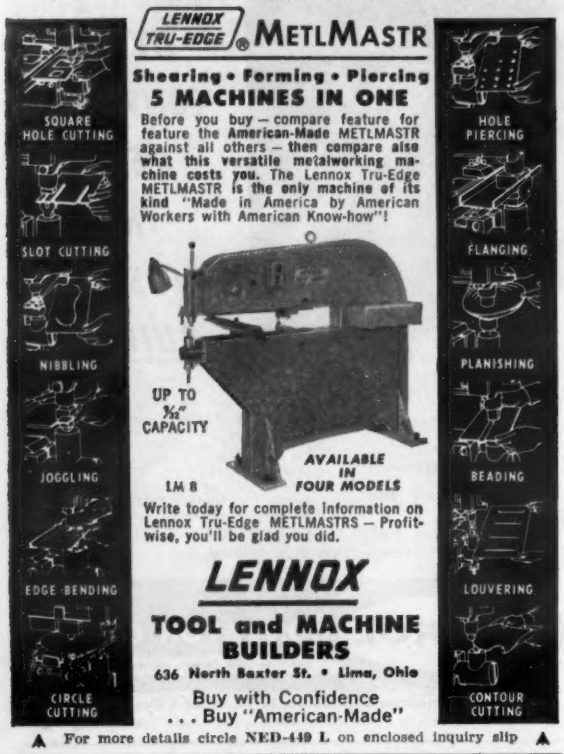
WAGNER DP MOTORS
(Doubly Protected)

Use Wagner Doubly Protected Motors—with rugged, corrosion-resistant cast iron frames and dripproof enclosures—in spots that once required splashproof motors. Get longer motor life, more versatility of application. DP Motors are built in NEMA frame sizes 182 through 445U; RP Motors, in frames 504 and larger, are available in ratings through 1000 hp. All are available with either ball bearings or steel-backed babbitt-lined sleeve bearings. Contact the nearest Wagner branch office.

Wagner Electric Corporation WM60-6
6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

▲ For more details circle NED-448 L on enclosed inquiry slip ▲

MORE FOR YOUR MONEY— AND "AMERICAN-MADE" TOO!



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5 MACHINES IN ONE

Before you buy — compare feature for feature the American-Made METLMASTR against all others — then compare also what this versatile metalworking machine costs you. The Lennox Tru-Edge METLMASTR is the only machine of its kind "Made in America by American Workers with American Know-how"!

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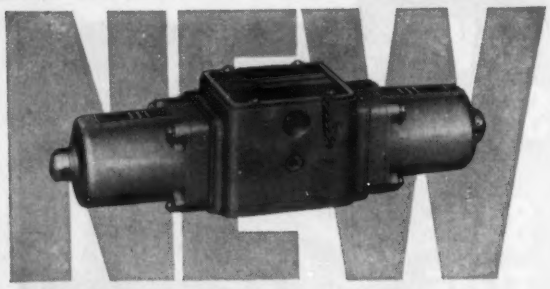

H-P-M 1/4" four-way pilot valves, single or double solenoid

The new H-P-M ¼" pilot valve is interchangeable with industry standards, handles 9 gpm at 3000 psi, single or double solenoid types available. These are quality valves for long, heavy-duty service at a price comparable with ordinary solenoids. Standard subplates available.

H-P-M pilot valves feature totally sealed, oil-immersed solenoids for long life and maintenance free operation — virtually millions of extra cycles. Immersed in oil, the solenoid operates cooler, shock and pounding is lessened, normal problems experienced with air gap type solenoids are eliminated. Oil-immersed solenoids have bayonet type connections; service is simplified with no wire connections to break. Send for new specification sheets, today.

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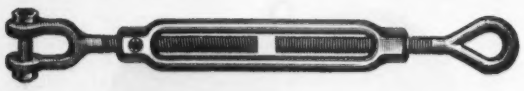
H56

THE HYDRAULIC PRESS MFG. COMPANY

A Division of Koehring Company, Mount Gilead, Ohio, U.S.A.

▲ For more details circle NED-450 L on enclosed inquiry slip ▲

Forged Fittings for Wire Rope and Chain



Forging know-how comes naturally to Wilcox-Crittenden. We've had 113 years' experience. Nine times out of ten Wilcox-Crittenden has the forged components you need, uniformly strong, safe, competitive. Write or call for catalog #300. It is a guide book for fact service on forgings and other industrial hardware.

WILCOX-CRITTENDEN

Division, North & Judd Manufacturing Co.

67 South Main St., Middletown, Conn.

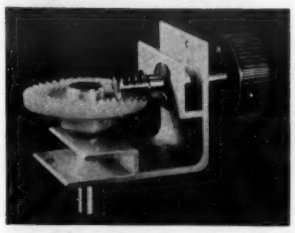
▲ For more details circle NED-451 L on enclosed inquiry slip ▲

ULTRASONIC CLEANERS
tank sizes from 2 to 20 gal

Four self-contained ultrasonic cleaning systems for industrial "white rooms" are complete with hot and cold water wash and rinse, recirculating pump, filter, and temperature control. They can be equipped with dryer and high pressure air blow-off. Tank sizes range from 2 to 20 gal; a 10-gal size is illustrated. Applications include cleaning of precision assemblies, instruments, and glassware; removing microscopic contaminants from delicate parts, controls, indicating mechanisms, and laboratory apparatus; and cleansing materials and equipment that are harmed by other cleaning processes. • Circo Corp., 51 Terminal Ave., Clark, N. J.

▲ For more details circle NED-452 L on enclosed inquiry slip ▲

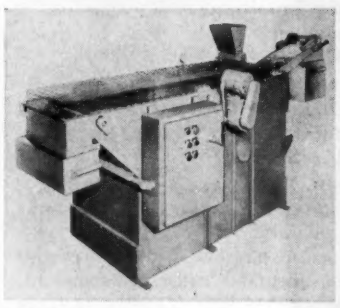
GEAR TUNER
19.5:1 ratio unit is backlash-free



Devices requiring fine adjustment such as variable condensers, potentiometers, and coils are applications for this backlash-free gear tuner. It also serves as a hand-operated input to any mechanical equipment, or as a magnitrol or Klystron tuner. Constant tooth contact is provided by spring loading and gear adjustment in mounting. Capacity is 20 lb-in., hand operated. Normal ratio is 19.5:1, but other ratios can be specified. All materials are noncorrosive: Molded gear is nylon, brass pinion is cadmium plated, and the bracket is anodized aluminum. • Illinois Tool Works, Spiroid Div., 2501 N. Keeler Ave., Chicago 39, Ill.

▲ For more details circle NED-453 L on enclosed inquiry slip ▲

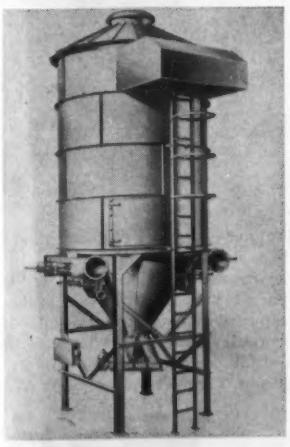
VACUUM COOLANT FILTERS
five capacities from 150 to 1000 gpm



When dirty coolant enters the tank of these coolant filters, the heavy particles settle to the bottom for removal by a drag conveyor. The vacuum section then cleans the coolant to any desired degree. Coolant is pulled by vacuum through a fabric that winds around an immersed mesh drum, then is pumped into the clean coolant tank. The filter operates uninterruptedly because the fabric indexes onto the drum automatically when the vacuum reaches a predetermined point or when the coolant rises above a certain level. Five models have capacities of 150, 250, 500, 750, and 1000 gpm. An optional diatomaceous earth filter may be added to attain a higher degree of coolant clarity. • Barnes Drill Co., 866 Chestnut St., Rockford, Ill.

▲ For more details circle NED-454 L on enclosed inquiry slip ▲

DUST COLLECTOR
designed for high temperature use



Siliconized glass fabric bags used in this dust collector withstand constant temperatures of 550° F. Available in 11½-in. diameter and from 14 to 21 ft long, the bags are collapsed pneumatically to dislodge collected dust. The cylindrical collector utilizes prefabricated interlocking zinc coated steel panels with a 60-degree conical hopper. Walkways are provided at upper and lower service levels, and a caged ladder affords access to an upper internal inspection platform. Capacities range from 1980 to 17,825 cfm in single units, built for intermittent or continuous operation. • American Air Filter Co., Dept. PD, 215 Central Ave., Louisville 8, Ky.

▲ For more details circle NED-455 L on enclosed inquiry slip ▲

Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings—quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking device assures correct reading every time. Available in twelve scale ranges with contact spheres, "V" block, or flat bases.

Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY $83.75 F.O.B. Cleveland

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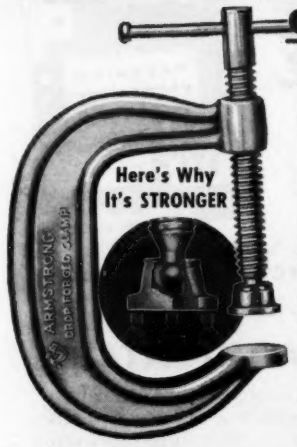
FERRO CORPORATION

4150 East 56th Street • Cleveland 5, Ohio

▲ For more details circle NED-456 L on enclosed inquiry slip ▲

New ARMSTRONG Swivel Pad can't come off



Now ARMSTRONG deep throat "C" Clamps have the new (Pat. apd. for) ARMSTRONG Ball-joint Swivel Pad. This "C" Clamp pad, developed by ARMSTRONG Engineers, is tougher than any on the market. Rigorous testing in our own plant first proved this fact, and field tests in factories throughout the country have confirmed our own test results.

The lip of the opening in the ARMSTRONG Ball-joint Swivel Pad is undercut so that when the ball of the screw is inserted, and the lip is permanently forced down, a solid steel wall is formed, inside the pad cavity, completely encircling the ball.

This wall of steel makes it impossible for the pad to come off the screw during normal use. In fact, our tests have proved that it is virtually impossible to intentionally knock the pad off with a hammer—yet the pad is free to swivel through an arc of approximately 40°.

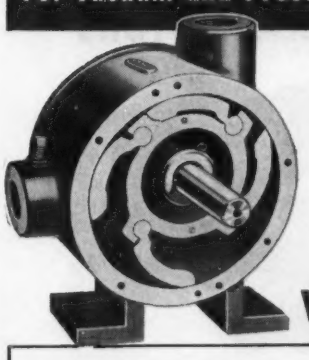
Call your ARMSTRONG Distributor

Your ARMSTRONG Distributor can offer delivery from stock on this "400-Series" deep throat, drop-forged "C" Clamp with the new Ball-joint Swivel Pad. He also carries in stock the other styles of clamps in the ARMSTRONG Line—the broadest line of drop forged "C" Clamps.

ARMSTRONG BROS. TOOL CO., 5245 W. ARMSTRONG AVE. CHICAGO 46, ILLINOIS

▲ For more details circle NED-457 L on enclosed inquiry slip ▲

For Vacuum and Pressure Applications



Get these Exclusive Advantages of LEIMAN HINGED VANE DESIGN

- Four curved vanes on easy-action hinges maintain sealed contact with cylinder walls by centrifugal force.
- Cast Iron Vanes and Cylinders hone themselves to hard, glassy smoothness—take up their own negligible wear.
- Extra-large Air Space provides 2 to 3 times more air capacity.
- Minimum Maintenance. Need only periodic oiling. Fewer moving parts, no composition vanes to replace.
- Also quiet operation—smooth air flow—every pump rigidly tested.

LEIMAN Rotary Positive AIR PUMPS

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

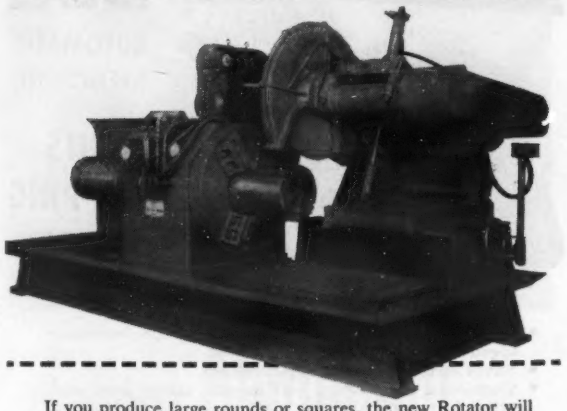
If your machines now use air pumps—if your new designs require air pumps, contact us for engineering assistance and data of Leiman Air Pumps.

WRITE FOR NEW CATALOG plus Application Book showing hookups.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1887

▲ For more details circle NED-458 L on enclosed inquiry slip ▲

NEW Abrasive Saw Rotates Metal . . . Cuts 16 to 20 IPM's on Hard Alloys



If you produce large rounds or squares, the new Rotator will reduce your cutting time to a minimum . . . 16 to 20 square inches per minute on hard alloys. It's the only rotator-type saw with a chuck that will hold rough forgings and rounds, as well as conventional rounds up to 14" diameter. Material is rotated as it is cut, keeping a cooler surface at the point of blade contact . . . result — longer blade life. Self-contained and portable, with integral tank and re-circulation pump.

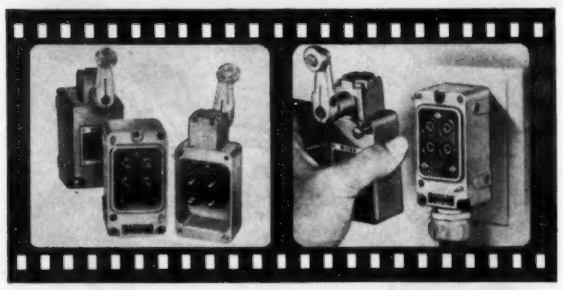
Ty-Sa-Man SINCE 1885

Write for FREE BULLETIN

TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

▲ For more details circle NED-459 L on enclosed inquiry slip ▲

H MICRO SWITCH Precision Switches



MICRO SWITCH "Plug-in Limit" Replaces in Just 20 Seconds

Oil-tight, sealed limit switches that replace as easy as plugging in a radio tube. Switch assemblies with nine actuator variations are available to fit this receptacle. The receptacle need not be replaced. Switch assembly can be mounted in 24 different mounting arrangements. Rugged terminal receptacle has heavy No. 8 terminal screws for easy wiring. Case histories prove these replacement time savings boost production. See your MICRO SWITCH distributor, or write for Catalog 84.

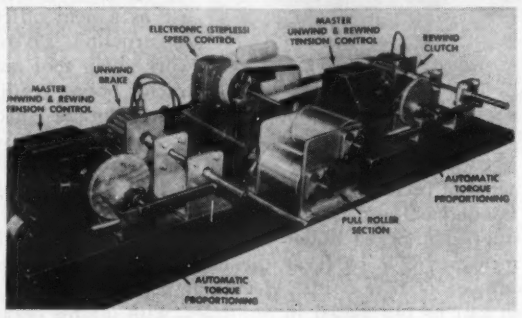
MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

▲ For more details circle NED-460 L on enclosed inquiry slip ▲

NARROW WEB CONTROLS for processing thin materials

Any web or filament such as plastic, paper, metal, or film in narrow widths is controlled through processing and winding operations with this Model Marco-1 web

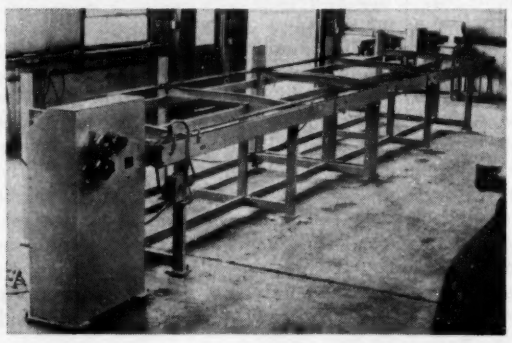


control. It consists of a constant-tension unwind, speed-controlled pull roller section, and a controlled tension winder. The unwind can be edge-controlled, equipped with a web-centering assembly, or have a controlled programmed oscillation assembly. An automatic edge-guiding set-up can be interposed between the pull section and the winder to align a web that has been processed. An automatic torque proportioning system in the winder section makes it possible to produce tapered tension of any desired character. All units of system can be mounted in any position. • **Web Controls Corp.**, Dept. NW, 318 Briarcliffe Rd., West Englewood, N. J.

▲ For more details circle NED-462 L on enclosed inquiry slip ▲

BAR FEED RACK handles ¾ to 1½-in. diameters

Random bar lengths up to 30 ft are automatically released by the escapement of this automatic bar feed rack to a power feed section which moves them to a



pinch roll stand. The power feed section of the rack is adjustable in height, as is the lower roll of the spring-loaded pinch rolls. A varible speed alternating current unit with tachometer feed back regulates speed, and an eddy current type torque-limiting clutch drives the pinch rolls. Speed range is 4 to 97 fpm. Bar diameters from ¾ to 1½ in. can be handled. • **Automation Development Corp.**, 135 Reynolds Rd., Mentor, Ohio.

▲ For more details circle NED-463 L on enclosed inquiry slip ▲

Pallet Loads Move Easier with Weld-Bilt PALLET-TYPE HYDRAULIC LIFT TRUCKS

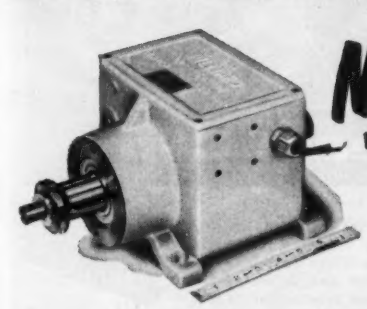
Easy-entry booster rollers, Multi-Stroke fast-lift operation, accelerator-type lowering pedal, Anti-kick-back Safety Handle, front wheel equalizer — these and other Weld-Bilt features promise long labor-saving service on your single or double pallet-moving operations. Check all the advantages — write for bulletin No. LT260-R. For information on our complete line write us or our nearby representative.

"Weld-Bilt" PRODUCTS

Hydraulic Lift Tables and Trucks — Portable Elevators—Automatic Conveyor-lift Elevators — Conveyors — Skids — Special Equipment.

WEST BEND EQUIPMENT CORPORATION
MATERIALS HANDLING ENGINEERS
311 WATER STREET • WEST BEND, WISCONSIN

▲ For more details circle NED-464 L on enclosed inquiry slip ▲



NEW "I.D.U."

HILLIARD'S Complete Package Unit that converts rotary power to precise intermittent motion . . .

Can be installed on existing equipment, designed into new machinery and re-used after production line changes.

Now you can get a single package unit that gives you precise control of intermittent motions . . . clip and bend . . . shear or slash . . . oscillate or repeat . . . raise or lower . . . index and position . . . from a constantly rotating source of power. The HILLIARD "I.D.U." eliminates the need of buying separate parts and assembling a special "custom" machine with assorted mechanisms to apply and control it.

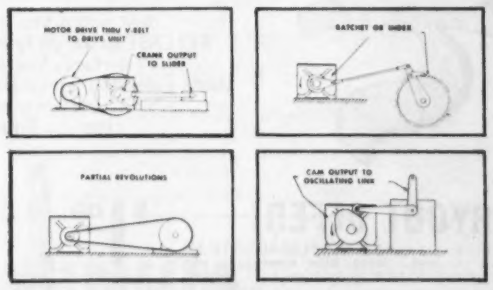
With an "I.D.U." you can mechanize hand or foot operated equipment, modernize or automate existing power operated machines and use it as a "building block" in designing or constructing new machinery or production drives.

The "I.D.U." features highly flexible control, manual, mechanical or electrical, permitting "demand" type operations in fixed or variable cycles. A protected drive, totally enclosed in an oil bath housing, it is ideal for dusty, "steamed" or "wash-down" conditions.

BASIC UNIT PRICE $289.00
Optional Accessories Extra

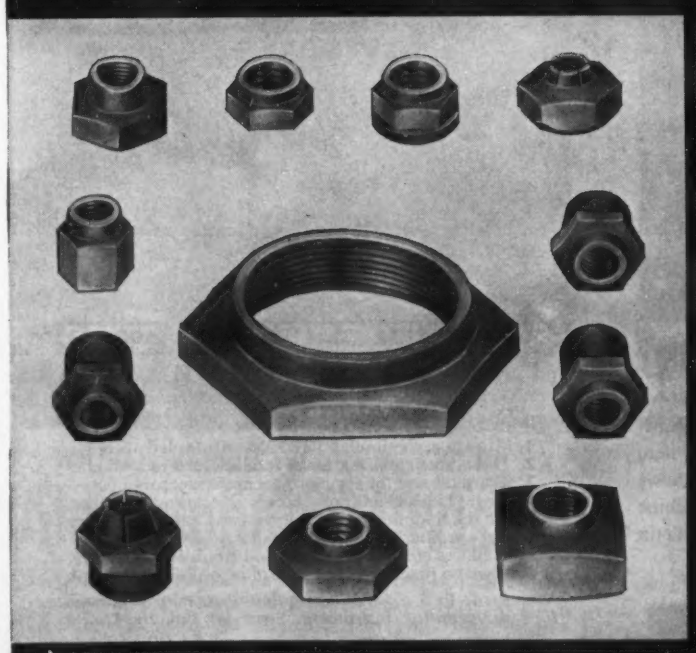
"Intermittent Drive Unit" contains all the parts in one package . . .

- Can be installed as easily as a motor and needs only electrical connection.
- Self-lubricating for long life of 40,000,000 or more cycles.
- Operating speed from 40 to 400 R.P.M.
- Torque capacity 36 ft. lbs.
- No cumulative error in cycling.
- Instant engagement.
- Mount with direct coupling connection or use with belt, chain or gear drive.
- *Investigate HILLIARD'S "I.D.U." for your equipment. Write on your letterhead stating your intermittent motion problems and we will provide complete information.*



THE HILLIARD Corporation
40 W. FOURTH ST., ELMIRA, N. Y.
IN CANADA: UPTON-BRADEEN-JAMES, LTD. TORONTO • MONTREAL

SPECIAL LOCKNUTS . . . *that solved fastening problems*



As the largest specialized nut manufacturer in the world we are constantly developing new methods and products for this phase of assembly in industry . . . in the field of locknuts we have made spectacular progress. Besides standardized hexagon "Conelok," "Huglock" and "Marsden," sizes #10—3" of ferrous and non-ferrous materials, we provide many special application nuts, upon a basis of these designs . . . a few of which are here shown . . . Our sales and engineering departments are available to help you solve your fastening problems . . . Send for 12-page condensus catalog, it includes complete specifications of our entire product, as well as engineering data. We also have an one hundred and forty four page catalog where more comprehensive information is required.

Manufacturers of Standard and Special ferrous and non-ferrous Hexagon, Square and "12 Pointer" nuts . . . "Conelok," "Huglock" and "Marsden" locknuts.

NATIONAL MACHINE PRODUCTS COMPANY
an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

▲ For more details circle NED-461 L on enclosed inquiry slip ▲

JUST WON'T SLIP. . .

Granet's new wet-grip **PYTHON** Neoprene just won't slip . . . even under the most trying conditions . . . yet costs no more than smooth neoprene coated or leather work gloves.

The wet-grip feature of **PYTHON** neoprene coated work gloves is a big plus for the man working with oil . . . grease . . . chemicals or other slippery materials.*

Flannel lining with wing thumb for added comfort and wear. Variety of styles . . . knit wrist to 18" gauntlet.

**Prove it to yourself . . . write for a free pair on your letterhead . . . and put them to the test!*

THE GRANET CORPORATION
25 LORING DRIVE, FRAMINGHAM, MASS.

▲ For more details circle **NED-465 L** on enclosed inquiry slip ▲

NEW GAT B-Beam Clip

Recently announced by Erico Products, Inc. is the new "B" beam clip. Designed for and approved for telephone use to replace present universal Clamps and/or Support Brackets. This product has found additional markets in the electrical contracting field, sound and intercommunication industries.

For use with threaded or unthreaded Bridle Rings, Drive Rings and other low voltage Cable, Wire and Copper Thermostatic Tubing Supports.

Recommended Maximum Load Limits:
Horizontal Pull 30 lbs. Vertical Pull 50 lbs.

This clip will fit any flange from ⅛" thru ½" thickness regardless of flange taper.

GADDY FASTENER Div. ERICO CADWELD PRODUCTS, INC. 2070 EAST 61st PLACE • CLEVELAND 3, OHIO

▲ For more details circle **NED-466 L** on enclosed inquiry slip ▲

how to "SKIN" residue glue from a coating tank

apply

RELEASE-COTE

THE MIRACLE RELEASING AGENT

Just a thin film of RELEASE-COTE on tank surfaces and it sheds glues and adhesives instantly at clean-up time.

TRYOUT OFFER!

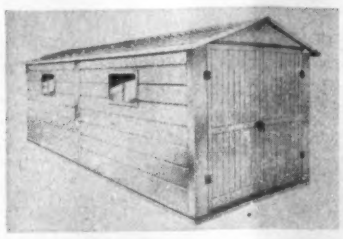
A generous supply of RELEASE-COTE for you to test. (Note how operators like RELEASE-COTE'S gentleness).

$1.00

Distributed by
POTDEVIN MACHINE CO. 273 North Street Teterboro, N. J.
World's largest producer of coating machines.

▲ For more details circle **NED-467 L** on enclosed inquiry slip ▲

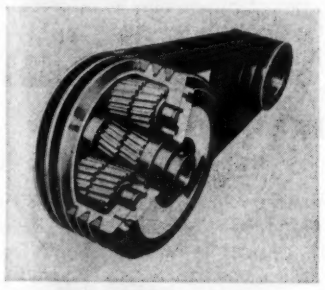
LOW COST BUILDING for construction shed, workshop



Low cost multipurpose, sectional add-on building finds use as a field office, construction shed, work shop, tool and tractor house, equipment storage shed, or as a pumphouse. Basic unit is constructed of predrilled and precut heavy-gage steel which is bonderized and zinc coated to resist weather. It is shipped knocked down and unpainted. Assembled, it measures 8 x 11 ft at the eaves with clear inside headroom of 6 ft 5 in. Height at peak is 7 ft 3 in. Unit can be purchased in multiples, with double doors in one or both ends and with or without windows. Single, double, and triple units with 512, 1024, and 1536-cu ft storage space, respectively, list for $194, $360, and $526. • **Pennington Mfg. Co.**, Addison, Ill.

▲ For more details circle **NED-468 L** on enclosed inquiry slip ▲

PLANETARY TRANSMISSION capacities up to 60 hp afford reduction ratios up to 270:1



Reduction ratios up to 270:1 are provided by the Roto-mission differential planetary gear transmission available in fractional through 60-hp capacities for use in shears, presses, hoists, conveyors, mixers, dryers, and other equipment. Units can incorporate as many as 12 pinion assemblies, making possible torque ratings up to 21,850 lb-ft in standard models.

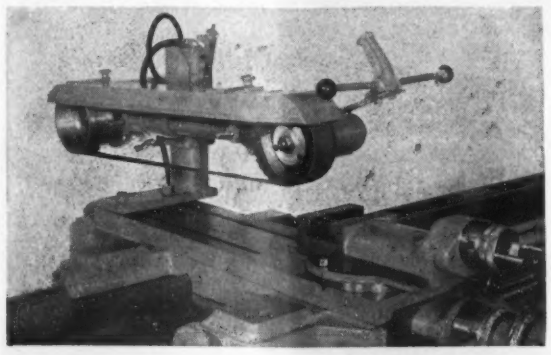
Control setups include friction clutching for overload slipping, electromagnetic clutch operation for remote control, and torque limiting and release through use of mechanical or electrical means. Since the entire transmission is contained completely within its outer surface, it is extremely compact. Cutaway picture shows internal arrangement of a three-pinion assembly transmission and the V-belt grooves on the rotating gear case assembly. • **Airborne Accessories Corp.**, Industrial Div., 1414 Chestnut Ave., Hillside 5, N. J.

▲ For more details circle **NED-469 L** on enclosed inquiry slip ▲

Machine Tools & Accessories

Rockwell Mfg. Co., Walker-Turner Div.—Some of the light-heavyweight machine tools and accessories described in revised 52-page Catalog WT-50 are drill presses, grinders, cutoff machines, band saws, and belt and disc surfacers. New introductions include a 20-in. power feed drill press, 15-in. drill press with 4 5/16 in. spindle travel, and 14-in. high speed drill press.

▲ For more details circle **NED-470 L** on enclosed inquiry slip ▲



A SPECIAL APPLICATION OF THE 6-72 UNIT

The G & P 6-72 Abrasive Belt Unit is a machine in its own right, mounted on a stand or hung from the ceiling. But it lends itself ideally to hundreds of special applications, where it can become as handy as a third arm. Illustration shows the G & P 6-72 mounted on a lathe, courtesy Sidney Machine & Tool Co., of Sidney, Ohio. Write for informative Bulletin No. 104 and Price List.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION

2530-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

▲ For more details circle **NED-471 L** on enclosed inquiry slip ▲

FREE TRIAL

WHY **IDEAL** AUTOMATIC STENCILING CUTS SHIPPING COSTS:

- Automatic character, word and line spacer increases speed and production.
- Saves at least 20% in stencil board.
- Cushioned hand wheel and handle, safety hood and other features make the Ideal easier to use—saving labor costs.
- Exceptionally long life—many Ideals have been in service over 20 years.

for free trial:

IDEAL

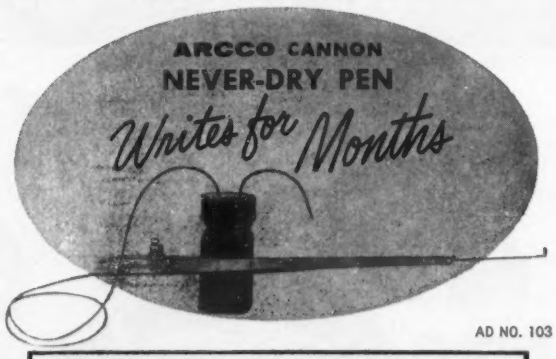
SEE THE YELLOW PAGES } FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

STENCIL MACHINE CO.
102 Iowa Ave., Belleville, Illinois

▲ For more details circle **NED-472 L** on enclosed inquiry slip ▲

DELAWARE BARREL AND DRUM COMPANY
WILMINGTON 99, DELAWARE
Philadelphia, Pa. • New York, N. Y. • Cleveland, Ohio • Chicago, Ill. Houston, Texas • Los Angeles, Calif.

▲ For more details circle **NED-473 L** on enclosed inquiry slip ▲



AD NO. 103

REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this Never-Dry Pen will make clean and complete records.

CHECK THESE EIGHT FEATURES

1. Always a continuous flow. No unrecorded records.
2. Holds sufficient ink for several months recording.
3. Constant weight for more accurate measurement.
4. Always clean, uniform records due to uniform flow.
5. No ink slopping or dripping in meter cases or on floor.
6. Uses regular recording inks or fast drying inks.
7. Stainless steel assures long and trouble-free service.
8. Used on practically any type of recording instrument.

Now made in 5 sizes. When ordering, specify make and type of recording instrument. Send for Bulletin 110-R3

$6.90 Each Net
Send for Quantity Prices

ARCCO INSTRUMENT COMPANY, INC.
7144 EAST CONDOR STREET • LOS ANGELES 22, CALIF.
MANUFACTURERS OF PRECISION INSTRUMENTS

▲ For more details circle **NED-474 L** on enclosed inquiry slip ▲

Alcoa Aluminum Fasteners

Any type! Any size! High-strength, heat-treated alloys . . . low prices and *fast delivery!* Simply look in the Yellow Pages for your local Alcoa distributor. He has the largest line of Alcoa® Aluminum Fasteners available. He can make fast delivery from his complete stocks; you can keep fastener inventories down.

For more data, samples, check the coupon below.

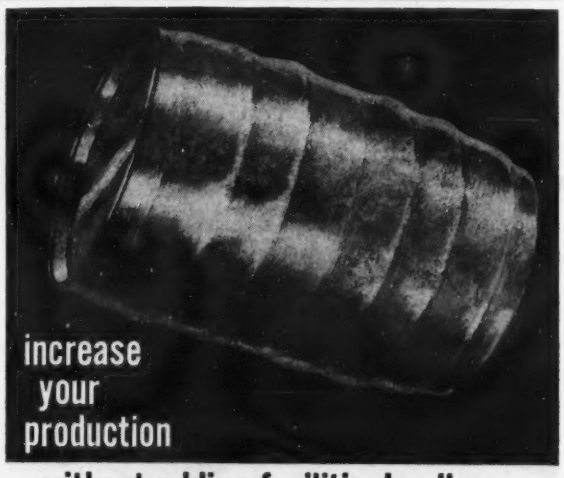
▲ For more details circle NED-475 L on enclosed inquiry slip ▲

Alcoa Aluminum Bearing Stock

For bearings and bushings that cost *less* . . . perform *better* . . . last *longer*, call your nearest Bunting Distributor. Ask him for Alcoa® Aluminum Bearing Stock. It's easy to machine . . . lasts longer in tough service . . . runs as much as 20 degrees cooler than other materials . . . and withstands loads up to 10,000 psi. Call your local Bunting Distributor today.

For more information, check coupon below.

▲ For more details circle NED-476 L on enclosed inquiry slip ▲



without adding facilities! call on

Alcoa Jobbing Division

End production log jams . . . get the use of fabricating facilities *without* capital investment by having Alcoa's Jobbing Division do the job for you. Get expert engineering and design help, too! Call your nearest Alcoa sales office and learn how the Jobbing Division can help you.

For free, 16-page booklet describing this service, check the coupon at right.

▲ For more details circle NED-477 L on enclosed inquiry slip ▲

DICTATING MACHINE
telephone recorder is built-in

In addition to regular pushbutton controls, the improved Stenorette - TD dictating/transcribing machine incorporates a built-in telephone recording device. Telephone conversations can be recorded by merely pressing a button. Machine also has unrestricted backspacer for review of dictated material (controlled from the mike) and a new recording indicator scale calibrated in minutes. Automatic voice control for uniform playback volume, automatic quick erasure of transcribed tapes, reusable medium, and special conference setting are other features. Machine allows 45 minutes of continuous dictating on a single reel or magazine. Price is $219.50. • **DeJur-Amsco Corp.**, Business Equipment Div., 45-01 Northern Blvd., Long Island City 1, N. Y.

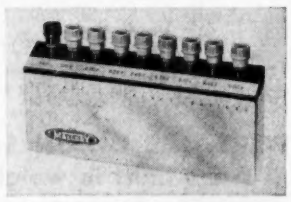
▲ For more details circle NED-478 L on enclosed inquiry slip ▲

BAG HANDLING ATTACHMENT
scoop-shaped unit for fork trucks

Bagged goods in stacks weighing up to 3500 lb are handled without pallets by this attachment for all Clark fork trucks. It consists of two 45-in. long scoop - shaped arms which are hydraulically actuated to clamp the bags. Arms can be spread 67 in. wide or clamped to 17 in. Maximum side shift of clamps is 12½ in. each side of center with a clamp opening of 42 in. • **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

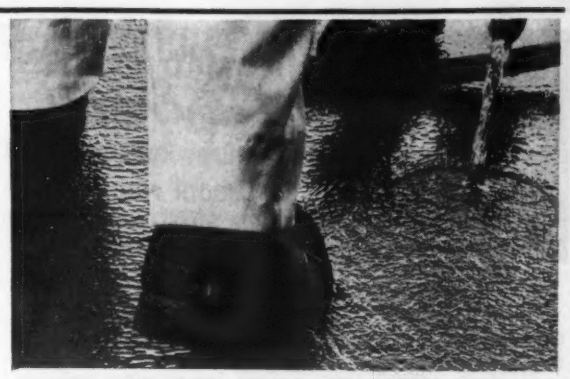
▲ For more details circle NED-479 L on enclosed inquiry slip ▲

MERCURY REFERENCE BATTERY
provides 8 outputs from 0-10.80 v



Eight outputs from 0 to 10.80 v in accurate 1.35-v increments are provided by this voltage reference mercury battery. It can be used as a reference source for instrument calibration; for speed, temperature, and voltage measurements; thermistor bridges; bias circuits; pH testing; and for supplying stable direct-current output for measuring, telemetering, and control systems. Battery is stable within 1 per cent from −20 to 160° F at drains up to 100 microamperes. It is accurate to 1 part per million for short periods, and less than ±½ per cent for 3 yr or more at normal temperature. It withstands shorts, vibration, and shock, and sells for $39.50 in leatherette case. • **Mallory Battery Co.**, 60 Elm St., North Tarrytown, N. Y.

▲ For more details circle NED-480 L on enclosed inquiry slip ▲



stop slipping accidents with

Alcoa Aluminum Abrasive Tread Plate

Provide lasting protection for employees and stop production-delaying accidents with Alcoa® Aluminum Abrasive Tread Plate. Made with tough particles of fused aluminum oxide, this lightweight and corrosion-resistant plate is easily installed . . . and it's *maintenance-free!* Wear *renews* the surface, uncovers additional abrasive particles! It's slip-proof on wet, oily or greasy floors. Install Alcoa Aluminum Abrasive Tread Plate and be safe.

For more information and free sample, check coupon below.

▲ For more details circle NED-481 L on enclosed inquiry slip ▲

Alcoa Aluminum Welding Materials

Improve finished quality by using high-quality Alcoa® Aluminum welding and brazing materials. The same quality assures you of faster joining, and from Alcoa you get the benefits of extensive research in alloys, techniques and joining methods. Call on Alcoa for IG welding electrodes • coiled welding and brazing rod • straight-length welding and brazing rod • welding, brazing and soldering flux • solder.

Call your nearest Alcoa distributor or your local Alcoa sales office.
For loan of welding films and the latest welding design information, check coupon below.

▲ For more details circle NED-482 L on enclosed inquiry slip ▲

Here's the coupon that will get fast results from the broadest aluminum distribution organization in the world . . .

Alcoa Sales Offices and Distributors

FOR EVEN FASTER SERVICE . . . look in the Yellow Pages under "Aluminum." Call the Alcoa sales office or distributor nearest you (located strategically throughout America!). You can rely on the prompt service, fully stocked warehouses and complete technical information from Alcoa!

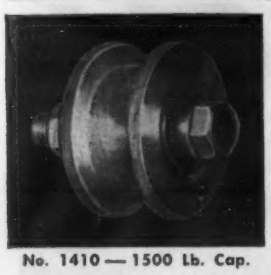
Aluminum Company of America
1763-L Alcoa Building, Pittsburgh 19, Pa.

Please send me samples and/or information about:

☐ ALCOA ABRASIVE TREAD PLATE ☐ ALCOA ALUMINUM BEARING STOCK
☐ ALCOA ALUMINUM INDUSTRIAL FASTENERS ☐ LOAN OF WELDING FILMS
☐ ALCOA ALUMINUM FABRICATING FACILITIES ☐ LATEST WELDING DESIGN INFORMATION

Name _____
Title _____
Company _____
Street Address _____
City _____ Zone _____ State _____

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA



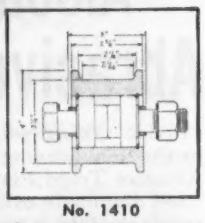
No. 1410 — 1500 Lb. Cap.

NOMAD ROLLERS
stay round!

- STURDY CONSTRUCTION
- SMOOTH PERFORMANCE
- NO LUBRICATION

Precision-made of carburized, heat-treated steel. Double rows of grease-sealed bearings give balanced load distribution.

GREAT FLEXIBILITY IS POSSIBLE —
This roller is designed for use with 30# ASCE Rail or 40# ASCE Rail and Nomad's heavy weight, special analysis steel rail — wherever sturdiness is required.



No. 1410

Other rollers are available in load capacities from 75 lb. to 2500 lb. Write for information on Nomad's complete line of rollers.

NOMAD EQUIPMENT CORP.
3110 W. FOND DU LAC AVE.
MILWAUKEE 10, WISCONSIN
Designers and Manufacturers of Complete Conveyor Systems.

NOMAD EQUIPMENT

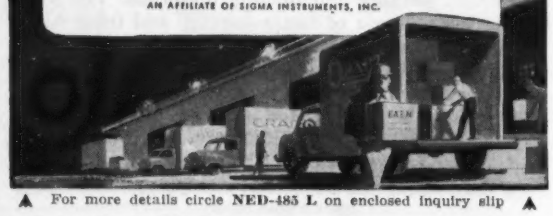
▲ For more details circle **NED-484 L** on enclosed inquiry slip ▲

LIGHT WHEN YOU NEED IT

. . . automatically with F-P controls

Fisher-Pierce photoelectric lighting controls automatically turn on lights in parking lots, railroad yards, docks, loading areas, storage and security areas—whenever daylight drops to preset turn-on setting—regardless of weather or time of day. Turn-on setting is adjustable, never needs re-setting; various models available with turn-on from 1 to 500 f.c. Easy to install, housed in weatherproof watt-hour meter case. Reliability and ruggedness proven by ten years of use.
Standard Model 63300C switches lamp loads up to 3000 watts, special model switches 6000 watts; SPST, SPDT or DPST power contactors. For 105-130 or 210-250V, 50/60 cycles. For larger loads, control can be used with low-cost F-P Type 250A Multiple Relays. Bulletin on request. Write The Fisher-Pierce Co., 86 Pearl Street, So. Braintree 85, Mass.

FISHER FP PIERCE
PHOTOELECTRIC LIGHTING CONTROLS
AN AFFILIATE OF SIGMA INSTRUMENTS, INC.



▲ For more details circle **NED-485 L** on enclosed inquiry slip ▲

Hardness Readings in 2 seconds!

Webster
PORTABLE
Hardness Testers
FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

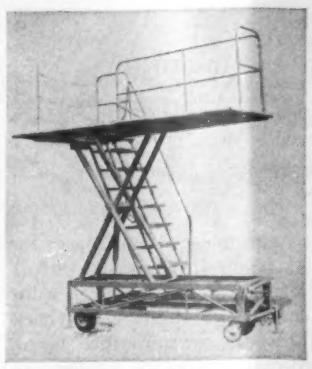
MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 29, California

▲ For more details circle **NED-486 L** on enclosed inquiry slip ▲

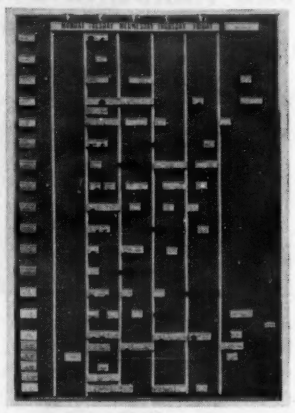
ELEVATING WORK STAND
platform rises to 100 in.



Area of the working platform of this hydraulic operated work stand is 56 x 126 in. with its folding side catwalk in its raised position. The platform rises from a lowered position of 30 in. above the floor to a maximum height of 100 in. It is equipped with tubular steel guard rails and positioners which hold it firmly to floor or ground when in use. Variations in size and other details can be specified. • **Bil-Jax, Inc.**, Archbold, Ohio.

▲ For more details circle **NED-487 L** on enclosed inquiry slip ▲

PRODUCTION CONTROL BOARD
magnetic type is easily changed



Scheduling of maintenance personnel and/or maintenance work, preventive maintenance control of machines, service schedules, location of work crews, and systematic planning of production facilities are among the applications for this visual control board. It consists of a steel board which firmly holds these visual elements: Alnico permanent magnets of various colors and sizes; magnetic card holders for typed, printed, or written data; large supporting units for pictorial presentation; acetate tape for maps, charts, and graphs; colored plastic bars for charts and graphs; circular identification stickers; and straight and curved magnetic arrows. Standard 24 x 36-in. board sells for $24.50. Any size can be built. • **Methods Research Corp.**, 105 Willow Ave., Staten Island 5, N. Y.

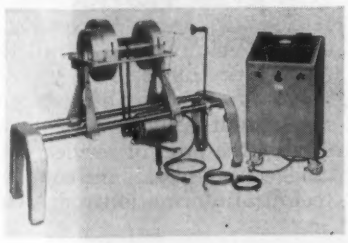
▲ For more details circle **NED-488 L** on enclosed inquiry slip ▲

PORTABLE CHAIN SAWS
are light in weight and easy to use

Six models powered by 4.7 to 8.1-cu in. displacement, two - cycle, gasoline engines comprise the Moline line of chain saws. They are equipped with 16 to 48-in. standard or hard-nose bars and 15-in. plunge bows, all with smooth, fast-cutting chain. Close pistol grip and handlebar constructions are offered, as are thumb-operated and automatic oilers. Other features include spark arrester, chrome chain-guard sawdust deflector, balanced design, and convenient throttle lock. Weights, less bar and chain, are 20 to 25 lb. • **Minneapolis-Moline Co.**, Hopkins, Minn.

▲ For more details circle **NED-489 L** on enclosed inquiry slip ▲

DYNAMIC BALANCER
sensitive to 0.00001-in. unbalance



Erroneous effect of component vibration is eliminated in unusual design of Model SU-7 lightweight dynamic balancing machine. Unit employs a tandem seismic mounting of vibration pickup and work support. Reference base from which rotor unbalance is measured is not the frame, but a horizontally oriented, freely supported mass in space within the pickup. Sensitivity is 0.00001 in. of measurable unbalance displacement. Applicable to 95 per cent of industrial balancing requirements, unit will balance high-speed rotors weighing from 2 to 600 lb. Turbines, impellers, aircraft accessories, armatures, pulleys, and drums can also be handled. Measurable maximum unbalance displacement double amplitude is 0.375 in. • **Micro Balancing, Inc.**, Herricks Road, Garden City Park, L. I., N. Y.

▲ For more details circle **NED-490 L** on enclosed inquiry slip ▲

▲ For more details circle **NED-491 L** on enclosed inquiry slip ▲

COMPACT 'LITTLE STEVE'

PRECISION-PLATES OR PROCESSES SMALL PARTS AUTOMATICALLY!

Only 4 feet high by 6 feet wide, 'Little Steve' is the smallest, completely automatic barrel plating machine available. It offers top mechanical flexibility to meet all of your precision finishing requirements; is inexpensive to buy, install and maintain. Features low ceiling height, light floor load, oblique barrels that require no lids, automatic loading and unloading. Designed for integrated process manufacturing. Keeps solution and anode requirements at a minimum. Investigate 'Little Steve' today, start cutting your plating costs **NOW!**

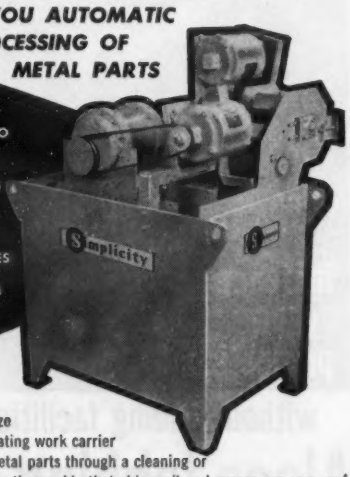
FREDERIC B. STEVENS, INC • DETROIT 16, MICH.

▲ For more details circle **NED-492 L** on enclosed inquiry slip ▲

NEW JUNIOR SIZE VIBRA-WASHER

GIVES YOU AUTOMATIC PROCESSING OF METAL PARTS

LABOR SAVING
READILY ADAPTABLE TO MANY OPERATIONS
NO NESTING OF PARTS DURING CLEANING OR CONDITIONING CYCLE
ADJUSTABLE CAPACITIES
ELECTRIC—GAS—STEAM HEATING ELEMENTS



The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

223

Simplicity TRADE MARK REGISTERED
ENGINEERING COMPANY • DURAND 15, MICH.
FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

▲ For more details circle **NED-493 L** on enclosed inquiry slip ▲

We bet millions on our couplings

When you buy a Fast's Coupling, you can bet your bottom dollar everything was built on the spot, not assembled piece by piece from other suppliers. Koppers multi-million dollar manufacturing facilities are the most modern in the industry . . . with advanced program machines, highly accurate gear shapers, a complete forge shop.

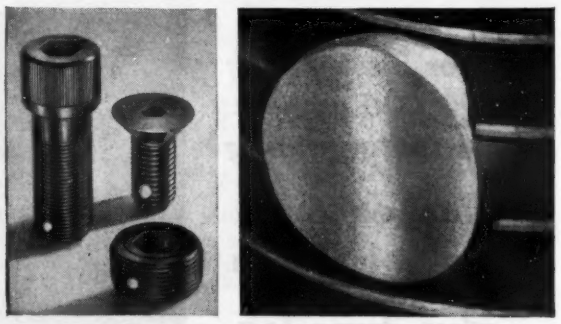
For example, all Fast's Couplings are jig-drilled and jig-reamed for greater interchangeability of parts. Result: you get high-quality, smooth-running, long-lived units that are the choice of more equipment manufacturers than any other gear-type coupling.

KOPPERS COMPANY, INC., 711 Scott Street, Baltimore 3, Maryland.

KOPPERS **FAST'S COUPLINGS**

Engineered Products Sold with Service

For more details circle NED-494 L on enclosed inquiry slip



The pellet with positive locking power . . . only with self-locking UNBRAKO!

- Nylok* principle means *maximum* thread area, *maximum* screw strength.
- Simplifies design and assembly, saves weight—no separate locking devices needed.
- Cuts maintenance by drastically reducing time spent checking and tightening joints.
- Cuts downtime—an UNBRAKO with Nylok won't back off even under severe vibration.

Self-locking UNBRAKO socket screws are easily removable, repeatedly reusable, and serviceable from −70° to 250°F. See your SPS distributor or send for Bulletin 2196 and samples.

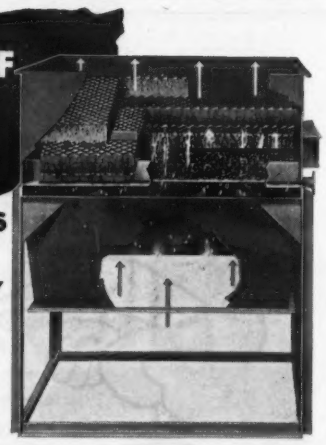
*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-495 L on enclosed inquiry slip

NEW AAF Type M CYCOIL



COLLECTS MISTS and VAPORS ECONOMICALLY

Why put up with polluted air from plating tanks and other vapor-discharging industrial processes? AAF's new Type M CYCOIL costs less, is more efficient, takes up less space, and weighs less than conventional wet collectors used for this application.

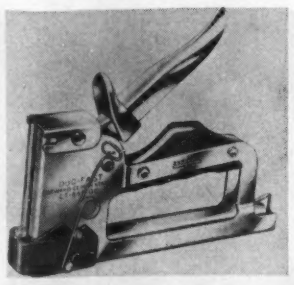
Exhaust air or gas is scrubbed by thousands of flooded contact surfaces in the fluid bed pad. No liquid retention, no recirculating pumps, no heavy scrubbing or eliminator section required. Normal water supply, only 3 qts. per hour per 1000 cfm. Available in 7 sizes, from 1,200 to 24,500 cfm. Ask for Bulletin 286. Address: Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Ave., Louisville, Ky.

AAF **American Air Filter**

BETTER AIR IS OUR BUSINESS

For more details circle NED-496 L on enclosed inquiry slip

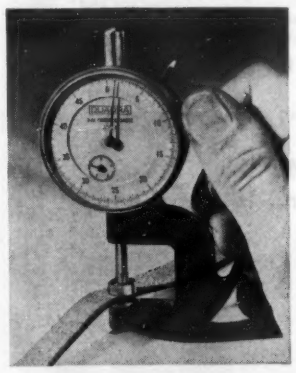
CLINCH STAPLER
staple curls without metal plate aid



Improved version of the Duo-Fast outward clinch stapler diverts the staple legs outward and upward without the use of a metal plate or anvil beneath the tool. An adjustment device enables user to control the amount of curl of the staple and compensate for wear. Typical uses include attaching inventory tickets and tags to filled corrugated cartons and insulation wrappings around air ducts. • **Fastener Corp.**, 3702 River Rd., Franklin Park, Ill.

For more details circle NED-497 L on enclosed inquiry slip

THICKNESS GAGE
dial type reads to 0.00025 in.



Small machine parts, wire, paper, laminates, metal, plastics, and rubber are but a few of the products which can be measured accurately with this portable dial micrometer thickness gage. This pocket-size tool has a working range of ½ in., and the easily read 2-in. dial is calibrated in 0.00025 - in. increments. One revolution of the large pointer equals 0.05 in., and the small revolution counter records up to 0.5 in. Finger operated lever actuates the gaging mechanism. Price is $19.95, including hardwood case. • **Quadra-Continental**, 2022 Westlake, Seattle 1, Wash.

For more details circle NED-498 L on enclosed inquiry slip

50-FT STEEL TAPE
has fast, automatic rewind

Constructed to withstand severe outdoor or indoor use, Model 850 50-ft steel tape rewinds automatically on press of button. It has steel gears, hardened pinion and spindle, 146-in. long spring, and overriding clutch on hub. The white - enameled steel tape is marked in inches and fractions, feet, and 16-in. centers. Working parts are protected by sturdy aluminum housings. Price is $16.50 with belt hanger. • **Spencer Production & Sales**, Dept. E-8, 306 Cleveland St., Pullman, Wash.

For more details circle NED-499 L on enclosed inquiry slip

Speed Handling of Heavy Sticky Materials with Jacketed Piping, Valves, Fittings

The best method for making heavy, viscous materials flow more freely is to apply heat—and the best way to apply heat is through Parks-Cramer jacketed piping, valves and fittings. It is axiomatic that the greater the heating surface, the faster the heating; and, the less viscous the product becomes, the easier it is to handle. These conditions are met by full jackets completely surrounding all product wetted surfaces—thus utilizing maximum heat transfer area.

The largest selection of jacketed piping and accessories is available in materials ranging from semi-steel (in stock) to carbon and alloy steel, bronze, aluminum, Ductile Iron, Ni-Resist, and plastic lined in sizes from 1¼" to 8".

Send for Catalog 356 for details.

Parks-Cramer Co.
PROCESS HEATING DEPARTMENT
FITCHBURG 3, MASSACHUSETTS

For more details circle NED-500 L on enclosed inquiry slip

HOW TO REDUCE HANDLING AND STORAGE COSTS

Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible when it's needed. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

WRITE FOR NEW CATALOG

All Stackbin Products Sold Direct

STACKBIN CORPORATION
1081 Main St., Pawtucket, R. I.

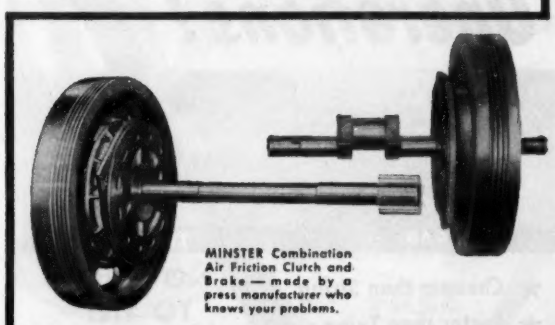
Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN SYSTEM "Stacked and Still Accessible"

For more details circle NED-501 L on enclosed inquiry slip

TO INCREASE PRESS EFFICIENCY

MINSTER. CLUTCHES FOR PRESS CONVERSIONS



MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

For more details circle NED-502 L on enclosed inquiry slip

SPAULDING SAVES ITS CUSTOMERS 30% IN PRODUCTION COSTS WITH VALUE ANALYSIS

THIS FREE BOOK TELLS HOW

SEND FOR YOUR COPY TODAY

SPAULDING FIBRE COMPANY, INC.

SPAULDING FIBRE COMPANY, INC.
310 Wheeler St.
Tonawanda, N. Y.

Gentlemen: Please supply me with a free copy of the brochure "Spaulding Value Analysis."

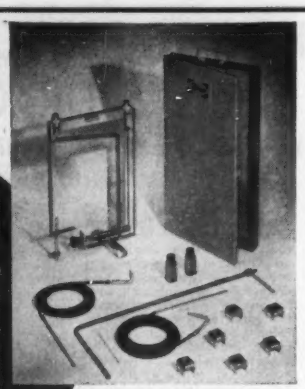
Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-503 L on enclosed inquiry slip

Dwyer CONTROLS GAGES

AIR VELOCITY METER No. 400

One Instrument Tells Both Air Velocity and Static Pressure!



- Reads directly in feet per minute and inches of water.
- Check *all* velocities from 400 to 10,000 F.P.M.
- All static pressures from 0 to 10" of water.

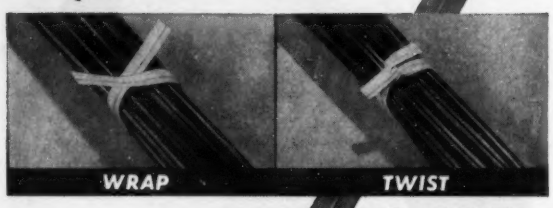
Tests fan and blower discharge and inlet pressures, pressure drop across filters, balances air conditioning systems, etc. Complete kit includes dual purpose manometer, 18" stainless steel pitot tube, Magneclips and all necessary fittings, tubings, instructions and accessories.

Write today for literature and prices.

F. W. DWYER MFG. CO.
P. O. BOX 373-Q MICHIGAN CITY, INDIANA

▲ For more details circle NED-504 L on enclosed inquiry slip ▲

Speed Tying Operations!



★ Cheaper than String
★ Faster than Tying
★ Sure Grip
★ Colorful

NO KNOTS TO TIE!

Cut your tying time in half! Hanscom-Ties are the fast, sure way to bundle wires, cords, coils, etc. Nothing to tie. Just wrap 'em around and twist. For temporary or semi-permanent holding. Available in cut lengths 1" to 24" and on spools — bright colors or printed. Prices from 26c per thousand. WRITE FOR SAMPLES and TRY 'EM YOURSELF.

H.F. Hanscom & Co., Inc.
15 Virginia Avenue
Providence 5, R.I., U.S.A.

Top view of Hanscom-Tie is shown. Bottom is flat

Hanscom-Ties

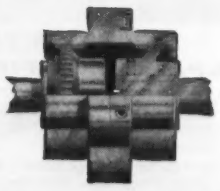
▲ For more details circle NED-505 L on enclosed inquiry slip ▲

AJAX

AJAX LO-VEYORS

Ajax Lo-Veyors are welcomed everywhere as cost saving successors to trucks, wheel-barrows and other high cost methods of manual handling bulk materials. *Ask for Catalog.*

AJAX FLEXIBLE COUPLINGS



Thirty-five years of satisfactory performance on direct-connected pumps, compressors, cranes, conveyors and automated equipment have proved the economy of protecting good machinery with Ajax Flexible Couplings, Rubber-Bronze Bushed or Dihedral gear type. *Ask for Catalogs.*

AJAX FLEXIBLE COUPLING CO. INC.
Westfield, N. Y.

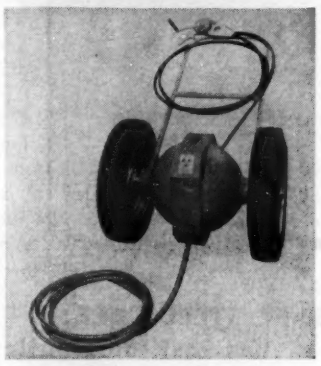
▲ For more details circle NED-506 L on enclosed inquiry slip ▲

OPTICAL PROJECTOR-DRILL
locates and makes holes accurately

Degree of accuracy for drilling holes in printed circuit boards can be selected by choosing magnifications from 10 to 100x on this optical projector-drill. At the highest magnification, accuracy to 0.0001 in. is possible. Equipment consists of the No. 33 optical package (power supply, condensing system, front surface illuminator, projection system, hood, and screen assembly), plus a stand and drill. The drill mounted vertically beneath the table is controlled manually or by a foot-actuated cam, as is the rocker clamp on the table. The projector screen is used to line up the drill point and the printed circuit board. A quantity of boards can be placed in a fixture on the machine for gang drilling. ● Stocker & Yale, Inc., 44 Green St., Marblehead, Mass.

▲ For more details circle NED-507 L on enclosed inquiry slip ▲

RADIOGRAPHY CAMERAS
for panoramic and internal use



Capacities of 1, 5, 10, 30, and 100 curies of cobalt 60 are available in the Model 60 radiography cameras. Designed for panoramic and internal radiography, the machine is used to position the source as required. User can select a strong or weak cobalt 60 source, or an iridium 192 source. Cobalt 60 is used for radiographing from ¾ to over 12 in. of steel. Iridium 192 has a steel range of ¼ to 3 in. Cameras weigh from 190 to 1100 lb, are mounted on pneumatic tired wheels, and have handles for moving. Prices range from $1900 to $3500. Two source-position Model 60-30 shown has a capacity of 30 curies of cobalt 60, weighs 675 lb, and sells for $2550. ● **Radionics Inc.**, Lafayette & Water Streets, Norristown, Pa.

▲ For more details circle NED-508 L on enclosed inquiry slip ▲

Pallets & Their Uses

Raymond Corp.—"A B C of Pallet Handling" is title of digest size 16-page booklet describing pallets and their uses. It tells how to estimate pallet requirements by floor-area, weight, and unit methods. Pallet loading instructions and illustrations of standard loading patterns are given.

▲ For more details circle NED-509 L on enclosed inquiry slip ▲

More steel can be stored in a warehouse when Cleveland Tramrail transfer cranes are provided, because aisleways are not needed. It is easier, safer, quicker to move. Transfer cranes in different building bays may be interlocked, either directly or to a common cross-over track, permitting loads being transferred from one crane to another, thus enabling delivery between all points without re-handling.

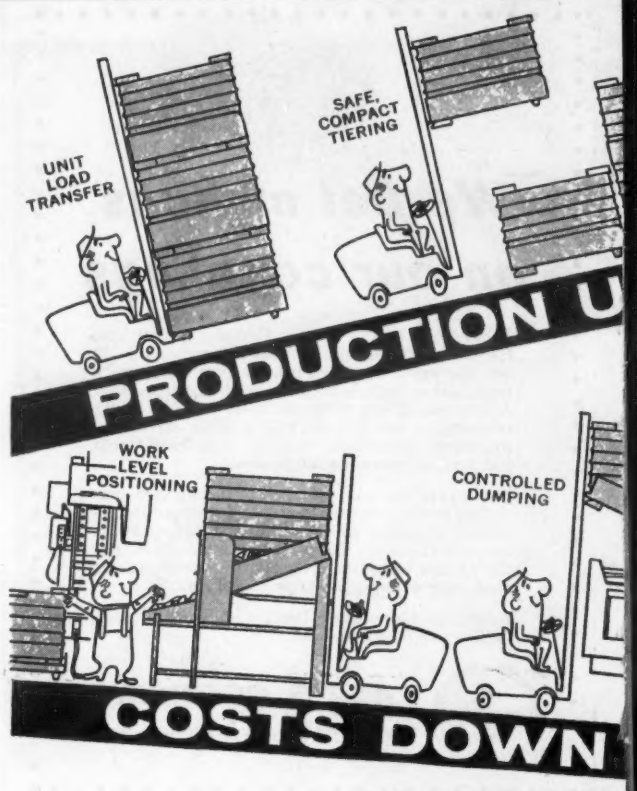
GET THIS BOOK

Sent free on request. Or ask for Tramrail Engineer to give ideas.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6643 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

▲ For more details circle NED-510 L on enclosed inquiry slip ▲



▲ For more details circle NED-5

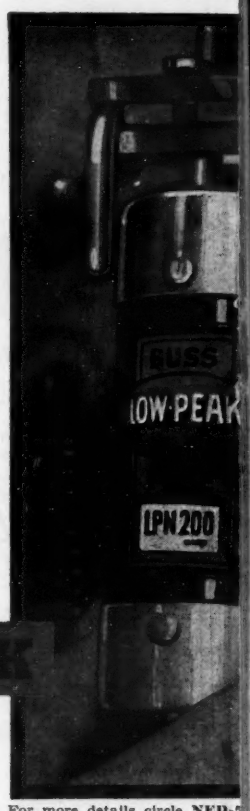
For fuses with 200,000 ampere interrupting rating

plus, extreme current limitation

plus, time-lag to prevent needless blows

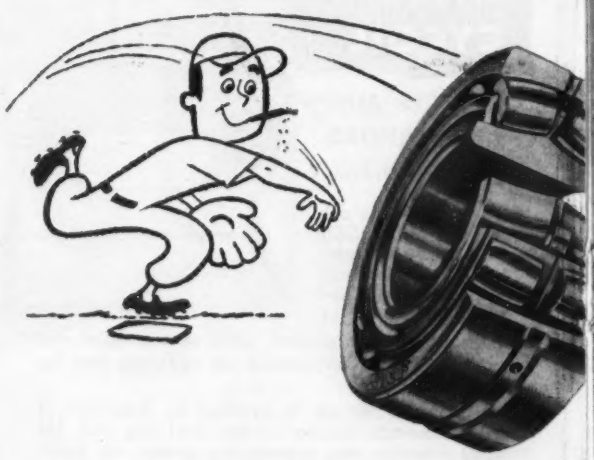
You need . .

Buss
LOW-PEAK
Fuses



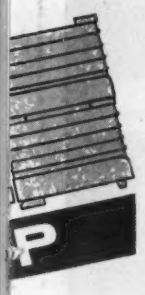
▲ For more details circle NED-5

The Authorized S



Spherical, Cylindrical, Ball, and "Timken" Tapered Roller B

▲ For more details circle NED-5



with Versatile

WORK-O-MATIC* HANDLING SYSTEM

Work-O-Matic Drop-Bottom Boxes increase efficiency and solve many troublesome handling problems. The Union Metal Manufacturing Co., Canton 5, Ohio.

*Registered Trade Mark

UNION METAL
Material Handling Equipment

11 L on enclosed inquiry slip ▲

A Revolutionary New Protective Device

Buss LOW-PEAK fuses can completely revolutionize the protection of the entire electrical system.

Protect Circuits, Motors, Controllers, Switches whether fault current is 1,000 amps. 100,000 or 200,000 amps.

Prevent damage to Panelboards, Controllers or other circuit components. Let-thru fault currents are limited to exceptionally low values.

Can be easily coordinated into a selective system — to limit fault outages to circuit of origin.

Prevent waste of time and money — because long time-lag keeps them from opening needlessly on harmless overloads.

Permit increasing interrupting capacity and current limitation on present system at minimum cost. Fuses fit standard switches and panelboards. Available from 15 to 600 amperes in both 250 and 600 volt ranges.

Remain safe throughout the years without maintenance or recalibration.

Write for Buss LOW-PEAK Bulletin LPCS

1160

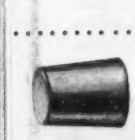
BUSSMANN MFG. DIVISION, *McGraw-Edison Co.* University at Jefferson, St. Louis 7, Mo.

12 L on enclosed inquiry slip ▲

SKF *Distributor comes through on deliveries*

Try him on any type and size of bearing. He'll come through—because he stocks SKF bearings, the most complete line of types and sizes available today. And nobody (but nobody) can get them to you any faster.

5918



EVERY TYPE—EVERY USE

SKF®

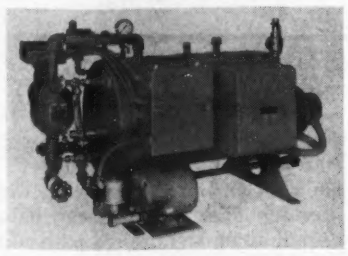
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

earings

*REG. U. S. PAT. OFF.

13 L on enclosed inquiry slip ▲

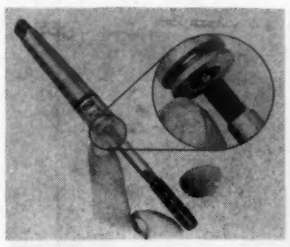
ELECTRIC BOILERS
6 to 60-kw units comprise the line



Line of ASME Code electric boilers with thermal efficiency of over 97 per cent includes 0.6 to 6-hp units rated from 6 to 60 kw. Chromalox heavy-duty heating elements are flange mounted to facilitate removal for cleaning. Thick mineral wool insulation over entire boiler shell is covered by a metal jacket. UL-approved and stamped for 100 psi service, units are available for 240 or 480-v three-phase, 208-v three-phase, or 240-v single-phase operation. Prices range from $525 to $1375. • **P. M. Lattner Mfg. Co.,** Box 1710, Cedar Rapids, Iowa.

▲ For more details circle **NED-514 L** on enclosed inquiry slip ▲

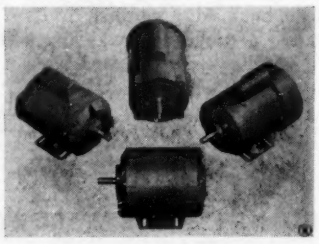
TAP CHUCK
allows fast change of taps



Once installed in spindle, the Biltz MT Morse taper chuck need never be removed to change taps. Style MT is offered in No. 1, 2, 3, and 4 taper shanks for No. 0 to 1⅛-in. hand taps and Style MTR with No. 2, 3, 4, and 5 tapers for pipe tap ranges from ⅛ to 1½ in. To change taps, bushing is pushed and tap is removed by hand. Chucks provide partial float for misalignment correction. • **T. M. Smith Tool Co.,** 14644 Puritan Ave., Detroit 27, Mich.

▲ For more details circle **NED-515 L** on enclosed inquiry slip ▲

FRACTIONAL-HP MOTORS
1/20 to ¾-hp ac units offered



Engineered for industrial duty, Duty Master line of fractional-hp alternating-current motors consists of 1/20, 1/12, 1/8, 1/6, 1/4, 1/3, 1/2, and 3/4-hp ratings. Units feature rolled steel frames with cast aluminum alloy end shields. Capacitor-start, split-phase, and polyphase units are made in size 48 and 56 frames, whereas repulsion-start induction-run models are offered in frame Size 56. Open protected; totally-enclosed fan cooled; totally-enclosed, nonventilated; and explosionproof enclosures can be specified with ball or sleeve bearings. Built-in thermal protectors operate in cases of excessive motor temperature or current input. • **Reliance Electric & Engineering Co.,** 24701 Euclid Ave., Cleveland 17, Ohio.

▲ For more details circle **NED-516 L** on enclosed inquiry slip ▲

DEMING END-SUCTION CENTRIFUGAL PUMPS

Just one of the many Deming pump features that provide longer life and lower operating costs

The DEMING Co.

1106 BROADWAY • SALEM, OHIO

▲ For more details circle **NED-517 L** on enclosed inquiry slip ▲

NOW! KNU-VISE GIVES YOU PUSH-PULL CLAMP CONTROL

P&P-1200
Hand Push-and-Pull Clamp

P&PSB-1200
Hand Push-and-Pull Swivel-Base Clamp

AOP&P-1200
Push-and-Pull Air-Operated Clamp

WRITE TODAY FOR COMPLETE INFORMATION

Push the handle! Pull the handle! It makes no difference—the new Knu-Vise clamps by Lapeer give you uniform clamping of parts. That's real performance! Look at these features—

90° handle motion produces lock of plunger for push or pull without resetting of handle. Handle is reversible. Plunger guided by two widely separated, hardened steel bushings for accuracy in motion and minimum wear. Built-in deflection provides uniformly tight clamping of parts with normal variation in thickness. Swivel base model provides 90° total change in direction of plunger motion. The air (or oil) operated model, AOP&P-1200, produces approximately 4½ times the clamping force with 85 p.s.i. than the cylinder would alone. Failure of air (or oil) pressure does not permit reverse motion of plunger, thus not affecting clamping force.

All parts easily replaceable.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS — LAPEER MANUFACTURING CO.

3062 DAVISON ROAD
LAPEER, MICHIGAN

WESTERN DIV.: PECK and LEWIS CORPORATION
4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD.
1131 Pettit Road, Burlington, Ontario

▲ For more details circle **NED-518 L** on enclosed inquiry slip ▲

Searching for new and better methods of belt, apron and ribbon maintenance? Looking for a quicker way to fasten belting and making ends meet? Send a sample of your belting, apron or ribbon to Clipper with an outline of your problem. They'll determine the best method of fastening and then *lace your sample free. Write for details.*

Clipper BELT LACER COMPANY

976 Front Ave., N. W., Grand Rapids, Michigan

Ask your Industrial Distributor for Clipper Products

▲ For more details circle **NED-519 L** on enclosed inquiry slip ▲

PAYS FOR ITSELF . . .

CONTROLLED HUMIDITY

WITH LOW-COST WATER OR STEAM

Bahnson UNIT HUMIDIFIERS

Guaranteed Units Insure Quality, Reduce Storage and Production Problems

Full line includes 14 units in various sizes, capacities for your needs, any size area. Units have low first cost, low operating cost, automatic controls. Easy to install from ceilings or on walls.

TYPE E

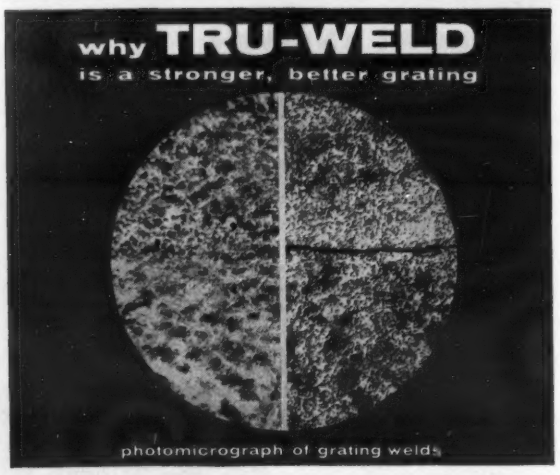
FREE ILLUSTRATED CATALOG

Clip Coupon to Letterhead and Mail Today! Catalog details complete line of 14 humidifiers for your needs, any size area.

NAME_____

THE BAHNSON COMPANY
N-S-N WINSTON-SALEM, N. C., U. S. A.

▲ For more details circle **NED-520 L** on enclosed inquiry slip ▲



This enlargement of the weld area in TRU-WELD grating shows how solidly the metals have joined. They are fused into a moisture- and vibration-proof weld.

Enlargement of an incomplete weld area. Note the line of separation between bearing bar and crossbar. Heavy traffic and vibration can separate such a weld.

Complete stocks maintained at Jos. T. Ryerson Service Centers. For more information on this new, stronger grating, call the Dravo representative in your area, or write DRAVO CORPORATION, Pittsburgh 25, Pa.

DRAVO
CORPORATION

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ENGINEERED PACKINGS

Garlock LATTICE-BRAID* Packings are engineered for longer packing life. They employ a through-and-through braiding construction. Each strand passes diagonally through the packing at a 45° angle. This unique construction makes a completely unified structure, resulting in greater strength. Since there is no single outer braid to wear through, Garlock LATTICE-BRAID will wear far beyond the limits of ordinary packings. Applicable against water, steam, oil, gases and chemicals to 700° F. Available in asbestos, flax, cotton and Teflon†. Only Garlock can give you LATTICE-BRAID.

Call the nearest of our 26 sales offices throughout the U. S. and Canada. Or, write for Catalog AD-131. Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Company.
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.
*Registered Trademark
†Du Pont Trademark for TFE Fluorocarbon Resin

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SOLVE DOZENS of Production Problems!
with
New, Versatile
kleen-stik®
Pressure-Sensitive
2-SIDED ADHESIVES IN TAPE FORM

Instantly Bonds Anything . . . to Anything!

Wherever you use an adhesive — you can probably do the operation faster, better, more economically with new KLEEN-STIK 2-sided adhesives! Thin, tough film *double-coated* with special moistureless adhesive, sticks tight to most surfaces. Replaces *and outperforms* glues, cements, gummed tapes, tacks, clips, nails, screws, staples, etc. — in hundreds of everyday applications!

"Customized" to your needs! Available in handy Dispenser Pack or large rolls, in standard ½", ¾", or 1" width, with exclusive "Finger-Lift" edge. Also in bulk rolls up to 54" wide.

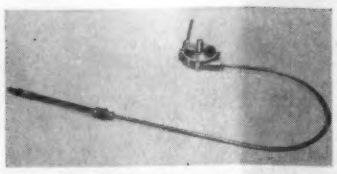
SAVE TIME AND MONEY IN ALL THESE OPERATIONS!
• Mounting • Holding
• Attaching • Splicing
• Anchoring • Joining
• Fastening • Assembling

SPECIAL OFFER! PROVE KLEEN-STIK in your own plant. Send $1.00 for regular $1.79 — 108 ft. Dispenser Pack.

kleen-stik Products, Inc.
Industrial Division
Dept. N 7300 West Wilson Avenue • Chicago 31, Illinois

▲ For more details circle NED-523 L on enclosed inquiry slip ▲

PUSH-PULL CONTROLS
transmit forces around bends



Aircraft, missile, and nucleonic fields are typical areas of application for line of mechanical push-pull controls. They consist of a wire cable with an outer helix wrap which, when inserted in precision drawn tubing, can be used to transmit push or pull along any desired path. Control box containing a hobbed gear that engages the helix wrap can be located anywhere along the system. Thus, force applied to cable is transmitted into rotary motion at every box. Tension and compression load capacities are 125 and 65 lb respectively, and cable breaking load is 725 lb. Temperature range is −65 to 300° F. • **Eanco, Inc.,** 1343 W. Cumberland St., Philadelphia 32, Pa.

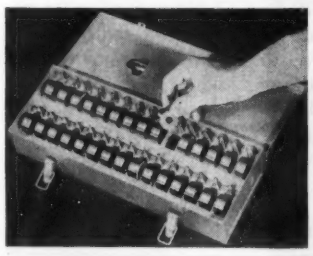
▲ For more details circle NED-524 L on enclosed inquiry slip ▲

IMPACT RESISTANT DOORS
rubber covered, have plastic window

Edges of Durador industrial access doors are protected by a ¾-in. thick soft rubber, making them draft-tight, corrosion resistant, and splitproof. They have shatterproof clear Lucite windows and are rubber covered to withstand the shock impact of fork lift trucks as they pass through, the jolt of protruding parts and loads with sharp corners, and the impact of towed trailers. A full length all-rubber hinge meets the shock of constant impact and seals the back edge against drafts. Extra heavy duty doors have a tough, nonwarping core of 3/16-in. glass fiber, and heavy duty doors have a ⅜-in. marine plywood core. Stock size is 4 x 8 ft, with other dimensions available on order. • **American Hard Rubber Co.,** 200 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-525 L on enclosed inquiry slip ▲

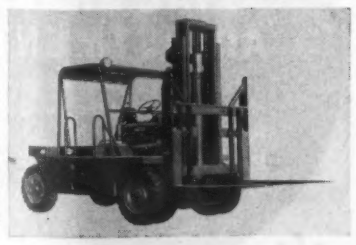
PUNCH & DIE ASSORTMENTS
round, square types in metal boxes



Punches and dies contained in two packaged assortments can be used in all hand and power operated punch presses. Made of tool steel and hardened to 60-62 Rockwell C, they are concentric and accurate. Punch-Pak No. 1 contains 30 sizes of round punches and dies from 3/64 to ½ in. in 1/64-in. increments. Cost is $139.50. Assortment No. 2 includes round punches and dies from 1/16 to ½ in. in 1/16-in. increments; round sizes from ½ to 2 in. in ⅛-in. increments; squares in ½, ⅝, ¾, and 1-in. sizes; plus one die holder and two die adapters. Cost is $259.50. Both sets are furnished in compartmented metal chests. • **O'Neil-Irwin Mfg. Co.,** 560 Eighth Ave., Lake City, Minn.

▲ For more details circle NED-526 L on enclosed inquiry slip ▲

FORK LIFT TRUCK
in 16,000 to 22,000-lb capacities



Powered by a 106-hp Ford V8 gasoline engine, Yardster fork lift trucks are available with capacities from 16,000 to 22,000 lb. They have a lift height of 11 ft, lifting speeds of 59 to 62 fpm, travel speeds of 22 to 34 mph, and four-speed synchromesh transmission. Power steering, adjustable seat, spot parking brake, and adjustable floating forks are standard. Allison Torqmatic transmission, four-wheel drive, all weather cab, and a 96-hp Ford diesel engine are optional. • **Taylor Machine Works,** Industrial Div., Louisville, Miss.

▲ For more details circle NED-527 L on enclosed inquiry slip ▲

A complete line of Unisorb Pads and Unisorb Level-Rite Mounts for fast and simplified installation of all types of machinery and equipment.

● Cuts installation costs up to 70% . . . eliminates bolts and lag screws . . . speeds installation . . . no drilling required . . . machines can always be moved quickly.
● Eliminates up to 85% of transmitted vibration and noise . . . increases machine life and efficiency . . . reduces maintenance.
● Unisorb Level-Rite provides fast and precise leveling.
● Safe, sure grip . . . can be cemented if needed.
● Unisorb is available in wide variety of densities and thicknesses — for maximum efficiency. Send for bulletin, today.

FED-64

UNISORB 224 SOUTH STREET BOSTON, MASS.

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PERFORATED MATERIALS

The H & K line of perforated materials offers many contemporary and traditional designs, available in steel sheets for immediate shipment from stock. There is also a vast selection of patterns and open areas which can be custom fabricated in most metallic and nonmetallic materials, from existing dies to your specification.

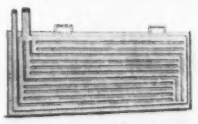
Send for General Catalog 75 and/or Stock List Brochure

THE Harrington & King PERFORATING CO. INC.

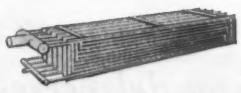
Chicago Office and Warehouse • *New York Office and Warehouse*
5658 Fillmore St., Chicago 44 — 114 Liberty St., Dept. NED, New York

▲ For more details circle NED-529 L on enclosed inquiry slip ▲

PLATECOIL®



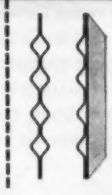
Standard PLATECOIL units



FACTORY-ASSEMBLED PLATECOIL banks

In factory-fabricated styles to fit your needs

ROLLED to specified diameters



SINGLE EMBOSSED OR DOUBLE EMBOSSED

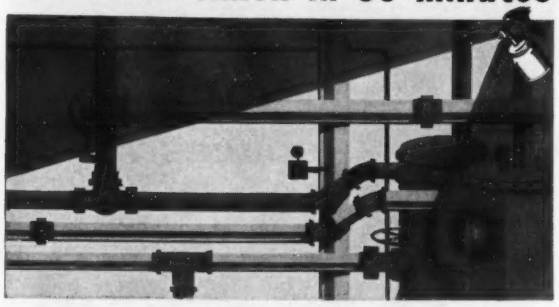
The PLATECOIL units above are just a few of the many standard and special units that are effecting savings and better performance in a wide range of tank and process heating and cooling applications. If you are looking for faster heat up, more heat transfer in less space, savings on installation or maintenance or an answer to other heat transfer problems, it will pay you to investigate PLATECOIL.

Send for free BULLETIN P57 for more information.

PLATECOIL® DIVISION
TRANTER MANUFACTURING, Inc.
LANSING 9, MICHIGAN

▲ For more details circle NED-530 L on enclosed inquiry slip ▲

Prime-and-finish in 90 minutes



with Tropical

SPRAY RHINAMEL

Inside or out, Tropical Spray RHINAMEL provides heavy-duty protection for years. Sprays smoothly, easily on wood or metal. Primes, finishes and dries in 90 minutes. Forms a hard, durable, glossy finish. For fast, economical repainting of machinery and equipment of all kinds, use Tropical Spray RHINAMEL! Write for detailed information, today!

Also RHINAMEL . . . *reinforced with Bakelite!* A rugged, hard-gloss, lasting finish. In 30 colors for brush application.

PARKER RUST PROOF PRODUCTS

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

TROPICAL PAINT COMPANY
1124-1266 W. 70th, Cleveland 2, Ohio
SUBSIDIARY OF PARKER RUST PROOF COMPANY

▲ For more details circle NED-531 L on enclosed inquiry slip ▲

HIGH-TEMPERATURE GRAPHITE

for Bearings & Seal Rings

Widely used in jet engines, and in other high-temperature mechanical applications, Stackpole Grade 469 shows remarkably low wear and low friction at temperatures where most other materials fail—1000° to 1200° F. Withstands corrosive chemicals and gases. Self-lubricating. Will not melt, fuse, seize or spall. Exclusive Stackpole Treatment will not bleed out at elevated temperatures.

Available as blanks, rough-cut, or finished pieces to your specifications. Hundreds of other carbon and graphite grades for mechanical applications. Submit your requirements to STACKPOLE CARBON CO., St. Marys, Pa.

STACKPOLE

"EVERYTHING IN CARBON BUT DIAMONDS"

▲ For more details circle NED-532 L on enclosed inquiry slip ▲

There's More **PROFIT** in Bigger **PAYLOADS** with **DINGS**

Aluminum-Wound LIFTING MAGNETS

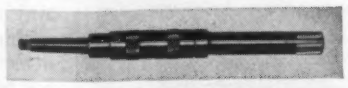
Dings Magnets are now wound with a specially coated aluminum wire for lighter weight, yet with lifting strength equal to heavier copper-wound units. You can now use larger, more powerful magnets on cranes previously limited to handling smaller magnets. Exclusive aluminum winding eliminates absorbent insulating tape, prevents moisture entrapment during the winding process, assures bigger payloads and longer life expectancy.

For complete information write for Bulletin 1402-A.

Dings
DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave. • Milwaukee 46, Wisc.

▲ For more details circle NED-533 L on enclosed inquiry slip ▲

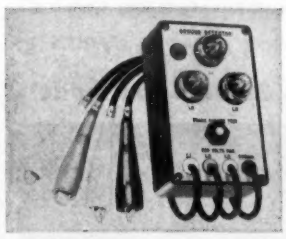
HOLE FINISHING TOOL achieves 2 to 10-microinch finishes



Holes rough-bored to 0.005-in. tolerance and having 80 to 200-microinch inner surfaces are reduced to 0.0002 to 0.0025-in. tolerances and 2 to 10-microinch finishes by this hole finishing tool. Roll-A-Finishing tool exerts a steady rate of pressure against the work surface, and metal flows out ahead of the tool, filling valleys and leveling peaks. Surface hardness is increased 5 to 10 per cent with penetration of 0.010 to 0.030 in. As tool enters hole, tapered rolls ride up an inversely tapered mandrel, increasing tool OD. On passing through work, rolls glide down the mandrel for free return stroke. From ½ to 2-in. diameter sizes are available. • **Cogsdill Tool Products, Inc.**, 12980 W. Eight Mile Rd., Oak Park 37, Mich.

▲ For more details circle NED-534 L on enclosed inquiry slip ▲

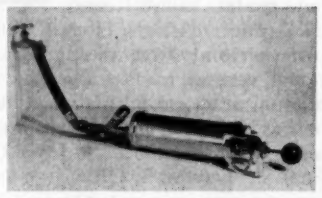
PORTABLE GROUND DETECTOR for underground power system



Any ground fault from 0 to 50,000 ohms resistance is detected by Model MP2 portable ground detector and indicated as to the phase in which the fault occurs. It will test any two or three-phase system from 105 to 480 v without switching. Test circuit allows intentional grounding of each successive phase through a resistor. An off position is also provided. Connections are made with four 36-in. rubber covered test leads and insulated clips. Unit weighs 30 oz and is priced at $25. • **Opad Electric Co.**, 43 Walker St., New York 13, N. Y.

▲ For more details circle NED-535 L on enclosed inquiry slip ▲

HOT WATER LINE CLEANER adaptor fits hydraulic drain cleaner



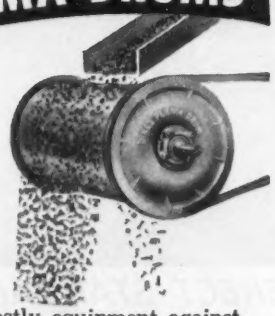
Rust and corrosion are removed from hot water lines by an adaptor hose furnished as an accessory for the Hydraulic Water Ram. Originally designed to clear blocked drains or plumbing fixtures by hydrostatic impact through the release of a compressed air charge, the portable device with its adaptor functions in the same manner. The adaptor hose is secured to a hot water faucet, the Ram is loaded to 150 psi, and the faucet is opened wide prior to discharging the slug of compressed air. The ram is then disconnected and the dislodged rust and corrosion is allowed to flow out of the faucet. • **Hydraulic Mfg. Co.**, 138 Hurd Ave., Bridgeport 4, Conn.

▲ For more details circle NED-536 L on enclosed inquiry slip ▲

Where no other type of Magnetic Separator is practical . . .

use **DINGS PERMA-DRUMS**

- in machines
- under chutes or spouts
- below apron conveyors
- in any confined space



Now you can protect costly equipment against tramp iron damage . . . prevent iron contamination of materials and products . . . in spots where no other type of magnetic separator can operate efficiently.

Why take a chance on tramp iron damage? Investigate the money-saving potential of Dings powerful, automatic, life-time guaranteed Perma-Drums.

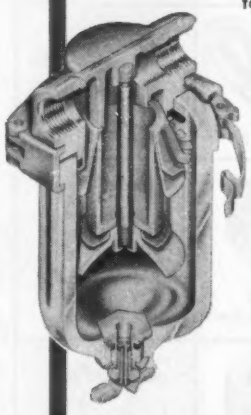
Every feature is fully explained in Catalog C-1100-A. Write for your copy today.

Dings
DINGS MAGNETIC SEPARATOR COMPANY
4758 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-537 L on enclosed inquiry slip ▲

NEW Norgren COMPRESSED AIR LINE FILTERS

for 1/4", 3/8" & 1/2" pipe sizes



The most efficient filter you can buy... the easiest to clean

- 100% liquid removal
- Only 4 parts to handle—fast and easy to clean
- New stronger transparent bowl
- Larger bowl capacity for collected liquid

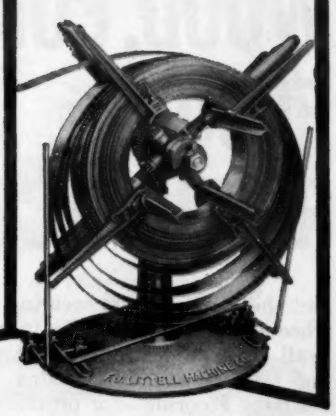
FOUNDED IN 1926 ***Write for Brochure NA-1***

C. A. NORGREN CO.
3405 SOUTH ELATI ST., ENGLEWOOD, COLORADO

▲ For more details circle NED-538 L on enclosed inquiry slip ▲

LITTELL REELS

Single and Double Reels In the Small and Medium Range, for coils of 100 lbs. to 10,000 lbs.

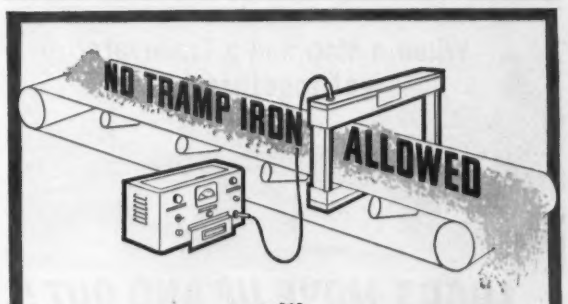


All the famed Littell ease of loading, automatic centering, and smooth, accurate unwinding . . . plus new, fast delivery! Plain and motor driven. Write for full information.

F. J. LITTELL MACHINE CO. — Speed with safety
SERVING USERS OF COIL STOCK — Branches: Detroit, Cleveland
Ask for Catalog "D"

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

▲ For more details circle NED-539 L on enclosed inquiry slip ▲



with

DINGS DETECTORS on the job

Why take a chance on tramp iron damage to expensive equipment? With the Dings Universal Series Detector policing your conveyor belts, spouts, troughs or slides, no iron or steel can pass through the search coil undetected. The Universal Series Detector is easily installed on existing conveyors and requires practically no attention for constant, automatic protection of processing equipment. It can automatically stop conveying or processing equipment when applied even on deep burdens traveling at high speed. With a wide range of sizes to meet your requirements, the Dings Universal Series Detector gives you the lowest cost tramp iron protection ever offered!

MD-160

Dings

Write for Bulletin 1901 for complete details

DINGS ELECTRONICS, INC.
Subsidiary of Dings Magnetic Separator Co.
4758 W. Electric Avenue
Milwaukee 46, Wisconsin

▲ For more details circle NED-540 L on enclosed inquiry slip ▲

Available in Stainless Steel, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

▲ For more details circle NED-541 L on enclosed inquiry slip ▲

SAVE YOUR OLD WOOD, CONCRETE FLOOR!... RESURFACE IT!

Get the heaviest duty wearing surface for foot and wheel traffic with these Flintkote Flooring Products —all are trowel finished. • Asphalt Mastic Flooring (FLINTMASTIC†) • Latex Industrial Flooring • Epoxy Flooring—for problem floors.

For complete information on mixes, coverage, uses and speed of application, write: The Flintkote Company, Industrial Division, 30 Rockefeller Plaza, New York 20, N. Y.

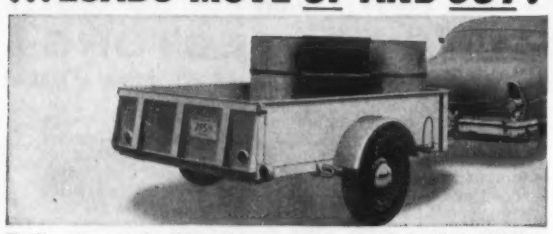
†A trademark of the Flintkote Company

FLINTKOTE®

Manufacturer of America's Broadest Line of Building Products

▲ For more details circle NED-542 L on enclosed inquiry slip ▲

...LOADS MOVE *UP* AND *OUT*!



Trailevator puts load handling on a *one-man* basis. Hydraulically lowers to ground level for easy loading . . . then lifts *its own load* to hauling position! Hitches to car, truck or tractor—lowers and lifts without uncoupling. Now used by hundreds of leading companies and institutions. Team up *your* men with Trailevators . . . the *new* way to cut load hauling costs!

WRITE FOR ILLUSTRATED BROCHURE—Trailevator Division
Magline Inc., P.O. Box 111, Pinconning, Michigan

Trailevator

TAKES THE LIFT OUT OF LOADING

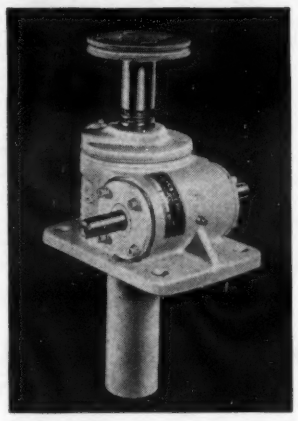
▲ For more details circle NED-543 L on enclosed inquiry slip ▲

MOTION DETECTOR
sounds alarm with motion in area

Any motion either into or within a confined area is detected by the Swami motion detector. Interruption of the standing wave pattern created by saturating the area with a pattern of radio frequency energy causes a voltage change at the sensor unit. This is transformed into both audible and visual alarms at the control station which may be several miles away. Tampering with the interconnecting cables in the system causes an immediate alarm. Sensitivity of the system is adjustable for areas varying in size. System is composed of sensor, day/nite sensitivity control box, power supply, and monitor, and operates on 110-v ac. An emergency standby power supply is an accessory. • **Singer Mfg. Co.**, Singer Military Products Div., Singer-Bridgeport, 915 Pembroke St., Bridgeport 8, Conn.

▲ For more details circle NED-544 L on enclosed inquiry slip ▲

SCREW JACKS
line now includes 2 and 5-ton models



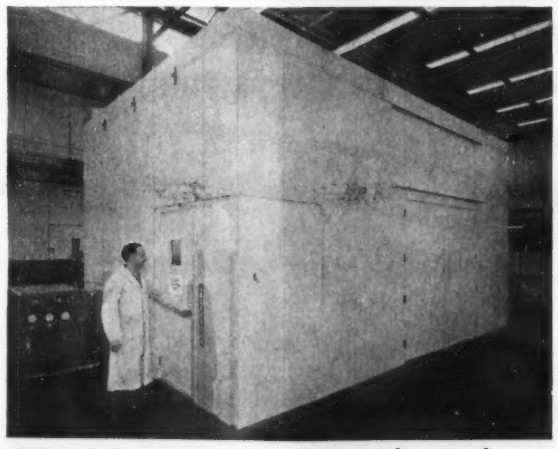
Linear actuation of existing equipment, vertical adjustment of production machinery, stabilizing of mobile devices, and incorporation into original equipment to provide impact resistance and precise leveling are uses for these worm gear screw jacks. The 2-ton model has a worm gear ratio of 6:1 and the 5-ton unit (shown) is available in 6:1 and 24:1 ratios. The previously announced 15-ton model has 8:1 and 24:1 ratios. All are offered with travel to suit the application and drive mechanisms to withstand bidirectional vertical loads. The power source can be either manual or motor with reducer unit. A four-way miter box assembly is available for multiple systems requiring synchronization. • **Joyce-Cridland Co.**, 2027 E. First St., Dayton 3, Ohio.

▲ For more details circle NED-545 L on enclosed inquiry slip ▲

Ball Bearing Units

Stephens-Adamson Mfg. Co., Sealmaster Bearing Div.— Comprehensive technical and engineering data, specifications, diagrams, illustrations, and typical applications of Sealmaster ball bearings are furnished in descriptive Catalog 454. These units have permanent seals and are prelubricated, self-aligning, and zone hardened.

▲ For more details circle NED-546 L on enclosed inquiry slip ▲



ERECT STANDARD 15' x 39' PRE-FAB-LAB® IN 2 to 3 DAYS

New Sheffield Pre-Fab-Lab®, a demountable environmental controlled enclosure for gage laboratory or "white room", keeps temperature within ¼° F, RH under 50%, circulates electrostatically cleaned air. Costs far less than permanent installation. Readily dismantled and reassembled. Standard models: 15' x 23', 15' x 31', 15' x 39'. Height 12'. Entry 8' x 8' for moving large equipment. Regular door has airlock. Write for Bulletin or proposal, to Division No. 600.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

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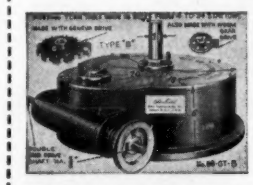
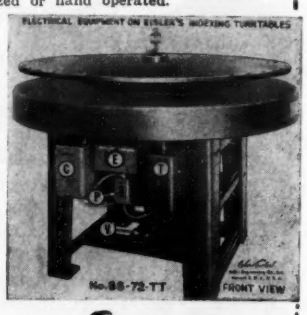
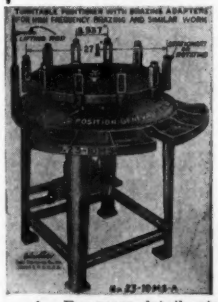
- For work transferring, tilting positions. Motorized or hand operated.





Eisler Indexing Turntables are completely electrically controlled



AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr., President

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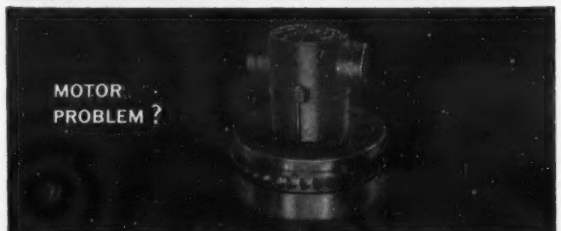

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Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

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A Division of American Machine and Metals, Inc.
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Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

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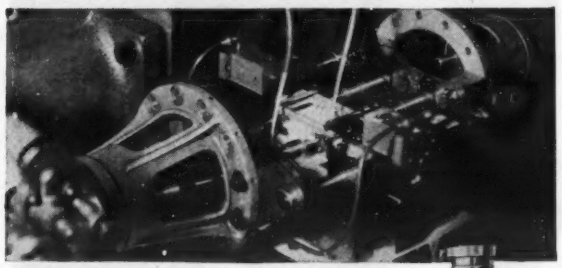
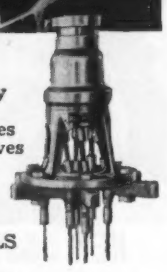
PAID FOR THEMSELVES
on the first job





MULTI-DRILLS are self-liquidating adjustable multiple spindle drill press attachments for production drilling. They multiply the speed, efficiency and production of men and machines many times over. They can quickly pay for themselves —often in the first week of operation. MULTI-DRILLS are available in many models designed to drill from 2 to 15 holes (and more) at one stroke of a drill press. Thousands of MULTI-DRILLS in use today are proving that you can save time and money by multiple drilling with a Commander Adjustable MULTI-DRILL. Ask your nearby Commander Distributor to show you how a MULTI-DRILL can reduce your hole costs.

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NEW PANEL MOUNTING AIR QUICK CONNECTS !

● New versatility for air circuitry is now available thru two new styles of panel mounting CLIPPARD Quick-Connects.

Shown at middle left is MQC-3 with female 10-32 port at rear for metal or flexible tube fittings. At middle right is MQC-2, provided with male 10-32 thread. At bottom right is MQC-1 for clamp or manifold mounting. At top is the "Miniature Switch of Pneumatics" — CLIPPARD Miniature Air Valve MAV-3 equipped with push button, available in 2, 3 and 4 way models.

For complete data on these and other compact CLIPPARD Flow Control, Needle and Check Valves, Valve Solenoids, Fittings and Accessories —

Clippard Minimatics

Write for New Bulletin No. 960

Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Rd., Cincinnati 39, O. • Phone JAckson 1-4261
Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

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PERFORM 2 FUNCTIONS WITH 1 LIMIT SWITCH!

NEW 2-pole device mounts in same space as single-pole switch . . .

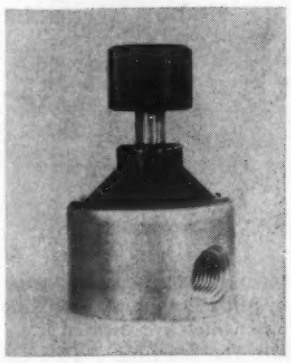
- Completely oil-tight
- 2-pole double-throw precision switch eliminates relay contacts
- Variety of arms available

***Write** for details. Square D Company, Dept. SA, 4041 North Richards Street, Milwaukee 12, Wisconsin*

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-553 L on enclosed inquiry slip ▲

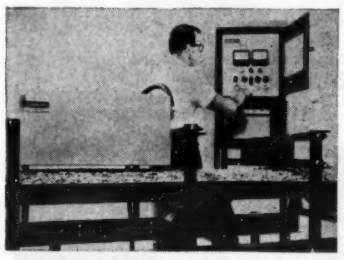
AIR & LIQUID VALVE
packless type for unfiltered service



Rated 500 psi and 180° F, the Flexi-Phragm valve has a resilient diaphragm that withstands deformation by trapped impurities while still providing tight shut-off. When the packless valve is opened, the impurities are washed away and the diaphragm resumes its original shape. It is suited for instrument air and other gas and liquid services. Only 10 lb-in. torque is required to close it in dead-end service. Valve is made of brass with 1/8 or 1/4-in. NPT connections. Diaphragms are neoprene, with Viton A and Buna optional. ● George W. Dahl Co., 86 Tupelo St., Bristol, R. I.

▲ For more details circle NED-554 L on enclosed inquiry slip ▲

MOISTURE & DENSITY GAGES
four models offered for use on conveyors, in pipes, and hoppers



Routine automatic measurement and control of moisture and density of materials right on the process line is made possible by four Qualicon instrumentation systems which employ gamma and neutron reflection methods. Each instrument series consists of a measuring head, electronic read-out, and the recorder/controller which displays the information and controls the measured variable.

Model 502 measures and controls bulk density of solid materials on a conveyor belt or in a bin or hopper; Model 507 gages the moisture of solid materials on a belt or in storage; Model 504 gages specific gravity of solutions and slurries in pipes or tanks; and Model 509 measures moisture content of liquids or slurries in a process loop or tank. Each system can be provided with either analog or digital data presentation and control. ● Nuclear-Chicago Corp., 359 E. Howard Ave., Des Plaines, Ill.

▲ For more details circle NED-555 L on enclosed inquiry slip ▲

Ultra-Small Indicator Lights

Dialight Corp.—Applications for Datalite ultra-miniature indicator lights discussed in 8-page Form L-160B include data-processing equipment, computers, instrumentation, automation, and miniaturization. Complete neon and incandescent lamp data and specifications are given. Replaceable and nonreplaceable lamp types are covered, as are the Data Cap Series 250 and cartridge connectors and speed clips.

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QO TANDEM

2 full-size Breakers IN 1 space-saving unit!

Takes only one pole space in circuit breaker load centers

It's no longer necessary to sacrifice quality to save space and money

***Write** for latest QO Bulletin . . . Square D Company, Mercer Road, Lexington, Kentucky*

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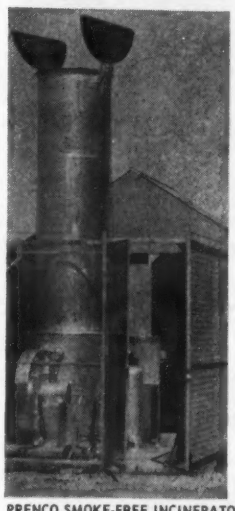
AIR POLLUTION PROBLEMS SOLVED BY LOW COST SMOKE-FREE INCINERATOR

Complete Incineration With No Visible Ash Wins Approval Of Smoke Abatement Authorities



PRENCO SMOKE-FREE INCINERATOR solving waste disposal problems for industry.

The low cost incinerator shown in the accompanying photo is used to dispose of liquid industrial waste products. Now in its third year of operation, this Prenco Smoke-Free Incinerator has continued to win approval from air pollution authorities based on its complete incineration of waste materials.

Tars, sludges, cyanides and waste oils of all kinds are disposed of without smoke or visible ash.

CHECK THESE FEATURES:

• low initial cost • low operating cost • low maintenance • smokeless • compact • safe

Call Prenco (Lincoln 9-2700) for a discussion of your particular waste disposal and smoke abatement problem.

PRENCO INDUSTRIAL INCINERATORS
Prenco Manufacturing Corp., 2605 W. 14 Mile Road, Royal Oak, Michigan

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Pedrick Production Benders travel in the best circles—and produce from pipe, tubing or structural metal the best circles or any other type of bend—faster, more economically.

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"Select your proper bending machine from the NEW PEDRICK LINE BULLETIN. Ask for it now."

BEND WITH PEDRICK

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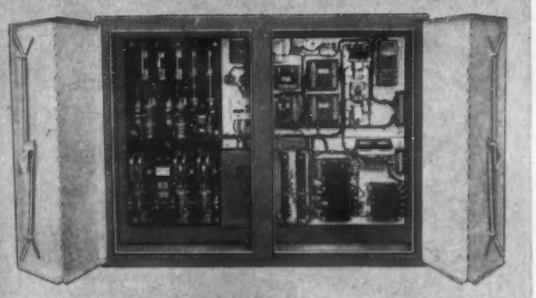
PRECISION HANDLING OF ALL LOADS with new EC&M AC STATA-Hoist Control



- **STEPLESS CONTROL** —with fast response over entire speed range
- **FLOAT CONTROL** —for pinpoint control at slow speeds
- **STATIC COMPONENTS** —for reliable operation and minimum maintenance

***Write** for Bulletin 6401 • Square D Company, EC&M Division, 4500 Lee Road, Cleveland 28, Ohio*

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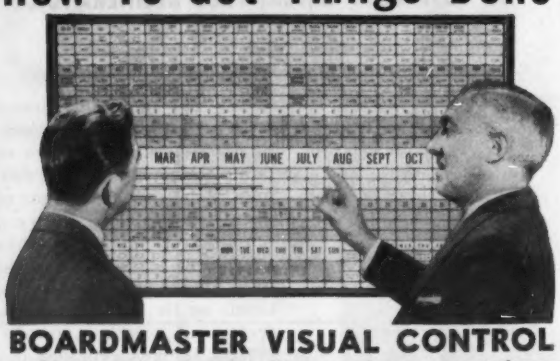
How To Get Things Done



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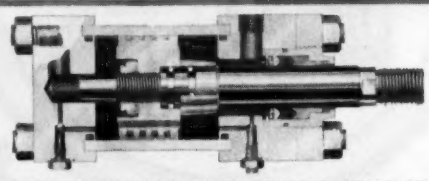
SQUARELINE 2000-3000 PSI HYDRAULIC



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- Extra Heavy Construction
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Dept. NE-11, 712 E. 163rd St., Cleveland 10, Ohio

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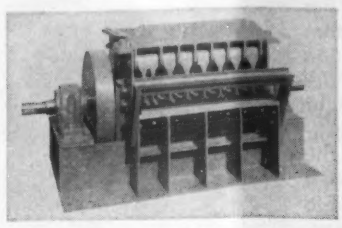
VERSATILE CHOPPER
utilizes swinging anvils to chop timber, strapping, wire, bricks

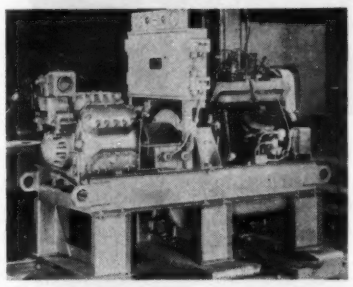


Easy - to - maintain K.C. Model Eat-Rite Hog is a machine that will chop or grind such varied materials as timbers with bolts and nails, steel strapping, wire, bricks, bottles, and cans. Developed originally to grind bark and billets, it utilizes swinging anvils held in place by 1-in. bronze pins which are sheared if an oversize piece of metal falls into the machine. This pin is replaced from the outside of the chopper.

Other features are ¾-in. abrasion resistant screen-baffles and replaceable steel wear plates on the inside of the lower hopper. Anvil points are removable and replaceable when worn, usually after 6 to 8 weeks in bark-grinding service. Models with bark capacities up to 171,000 lb per hour are offered with 6 x 36-in. flywheel and rated for up to 304-hp motors. Blo-Hog models with a fan for materials handling applications are also available. • **Jacksonville Blow Pipe Co.**, Box 3687, Jacksonville, Fla.

▲ For more details circle **NED-564 L** on enclosed inquiry slip ▲

BASIC COOLING UNITS
powered by natural gas engines

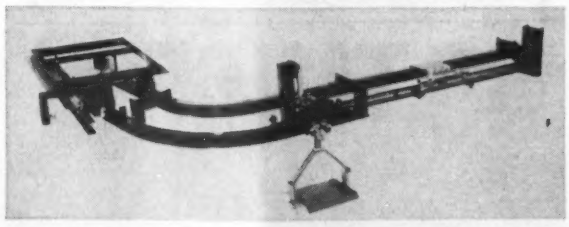


Packaged liquid cooler for water cooling systems, a refrigeration condensing series, and an engine compressor are the three basic cooling units in this line powered by natural gas engines. All operate quietly, with a minimum of vibration. The packaged automatic liquid cooler unit contains compressor, condenser, heat exchanger, centrifugal pumps, and evaporator. Twelve units in the refrigeration condensing unit series range in capacity from 7½ to 150 tons. The engine compressor unit has an infinite modulation range from 1800 to 1200 rpm, and its lubricant supply is sufficient for 2000 hr of operation. • **Bell & Gossett Co.**, Morton Grove, Ill.

▲ For more details circle **NED-565 L** on enclosed inquiry slip ▲

POWER & FREE CONVEYOR
wide range of components adds to versatility of the equipment

Combination of transporting, accumulating, load spacing, station selecting, and dispatching operations for industrial processing and warehousing service is provided

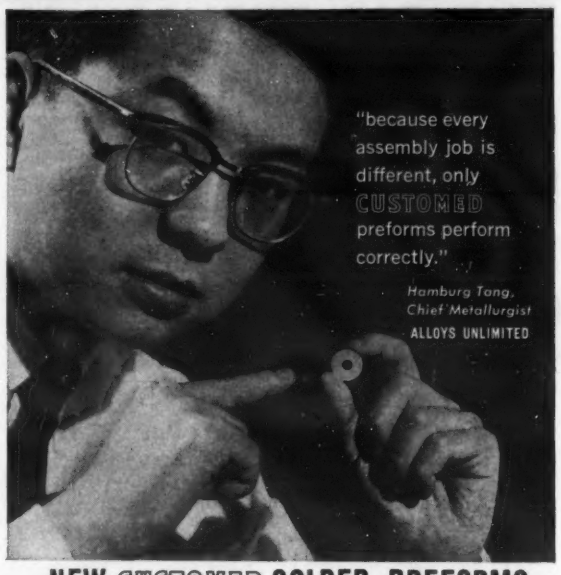


by the Rapistan Power-and-Free conveyor. It employs components of and the same track as the standard R-K 228 conveyor system, and can supplement such a system.

Several components enhance its versatility. An air-operated gravity flow retarder is installed on a pitched free track to prevent run-away carriers. An indexing manual or automatic trolley stop is installed on a gravity or free track to hold back one or more load trolleys until one is called for by an operator or automatic load signal. The automatic feeder unit, used with the automatic indexing stop, sets in motion trolleys that have been accumulated on a gravity storage line. Loads may be automatically directed to any of six predesignated work or storage areas by the multiple station selector, bolted to the load trolley bracket. Selectors on both sides of the bracket allow servicing of 36 stations.

Also available are an automatic tongue switch and a vertical drop section, the latter used at a dip or rinse tank. Powered conveyor sections have a power line above the load-carrying gravity track. Standard four-wheel carriers have a 200-lb rating. • **Rapistan-Keystone, Inc.**, 350 Rapistan Bldg., Grand Rapids, Mich.

▲ For more details circle **NED-566 L** on enclosed inquiry slip ▲



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ALLOYS UNLIMITED INC

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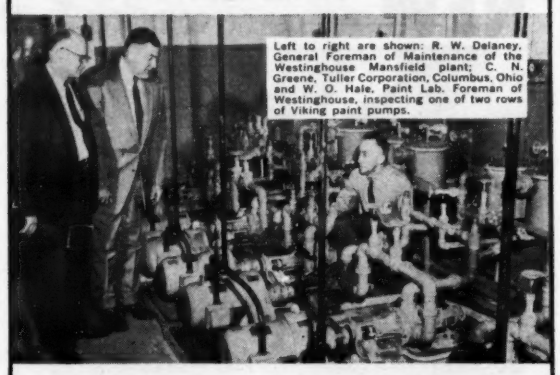
LAST 3 TIMES LONGER, PUMPING ABRASIVE LIQUIDS


Left to right are shown: R. W. Delaney, General Foreman of Maintenance of the Westinghouse Mansfield plant; C. N. Greene, Tuller Corporation, Columbus, Ohio and W. O. Hale, Paint Lab. Foreman of Westinghouse, inspecting one of two rows of Viking paint pumps.

WESTINGHOUSE Electric Corporation's major appliance plant at Mansfield, Ohio has materially reduced the problem of pumping abrasive type coating materials, according to Mr. C. Reining, Manager, Works Engineering. VIKING'S new abrasive liquid PUMPS are the answer, working 24 hours a day, 7 days a week. These new pumps are lasting three times longer than any previous equipment and still going strong. Pressures range from 45 to 95 PSI. Of the 28 VIKING PUMPS handling paints, primers and finish coatings in the Westinghouse Mansfield plant, 12 are the latest type of VIKING abrasive liquid construction. The other 16 will be replaced with new type VIKINGS.

Have an abrasive liquid pumping problem at your plant? Profit by this Westinghouse experience! Install new VIKING PUMPS, with ceramic bearings and mechanical seals, especially designed to handle abrasive* liquids and provide long pump life. When writing please give this information: 1. Liquid pumped, 2. Viscosity of liquid (SSU), 3. Percentage and type of solids present in liquid, 4. Temperature of liquid, 5. Specific gravity, 6. Capacity of pump, 7. Suction lift or head, 8. Discharge pressure . . . and ask for bulletin series SP-507G VIKING PUMP COMPANY, Cedar Falls, Iowa, U.S.A. In Canada, it's "ROTO-KING" PUMPS. (*Consult factory for recommendations on pumping abrasive liquids other than paints and inks.) Offices and Distributors in Principal Cities • See Our Catalog in Sweet's Plant Engineer's File.

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WITH THE PUNCH-LOK K-45

CLAMP-MASTER KIT

Contains preformed, open-end clamps and P-38 locking tool.

A Low Cost Economical Kit—
For Fast, Smooth, Clamping of Hose, Insulation, Cable, Rope, Split Beams, etc.

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The Sign of a GOOD Hose Clamp

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Safety-Step
LADDERS

Welded steel or aluminum safety treads combined with wide-base pyramid design offer extra safety and stability at heights up to 15 ft. Spring-mounted casters permit easy rolling, yet grip the floor firmly for safety. Corrosion-resistant. Available in 4 types, 47 models.
WITH OR WITHOUT HANDRAILS

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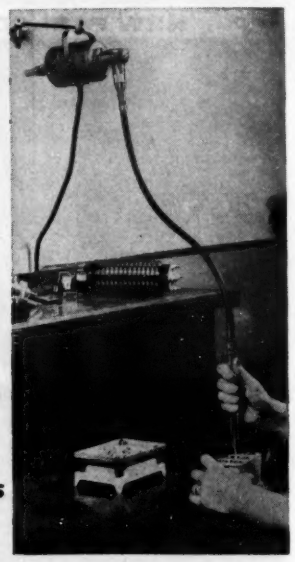
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

▲ For more details circle NED-570 L on enclosed inquiry slip ▲



Spectacular new production tool for small assemblies

FOREDOM
miniature
power
screwdriver
and NUT RUNNER

electrically driven flexible shaft type with exclusive SCREW PICKUP / FINDER*
picks up screws of any material!

*PATENT APPLIED FOR

Use this completely miniaturized power packed tool anywhere, in any position. It's a new concept for regular production or for special and delicate jobs inaccessible or awkward for other power drivers. In portable or hang-up models, it has adjustable touch control, weighs only 5½ oz., measures just 8" long. Available with a full range of quick changeover bits for screws and nuts from #0 to #4 — even larger in some cases.

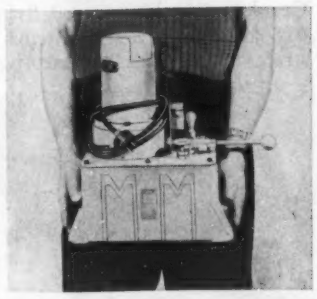
If you're working on instruments and controls, aircraft, missiles, relays, switches or any of a host of other applications, this little powerhouse can probably mean substantial savings. Write for the name of our nearest distributor, and Bulletin No. 224-N

FOREDOM ELECTRIC COMPANY, INC.
BETHEL, CONNECTICUT.

Manufacturers of miniature flexible shaft power tools since 1922

▲ For more details circle NED-571 L on enclosed inquiry slip ▲

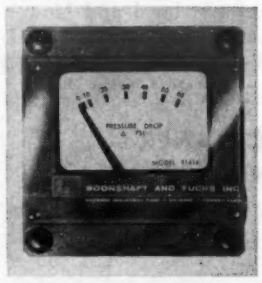
PORTABLE FLUID POWER UNIT
40-lb system plugs into 110-v outlet



Completely self-contained, portable Dyna-Pack 110 power hydraulic control supplies up to 1200-psi hydraulic power for operating any type of hydraulic equipment. Two sizes are offered with 1 and 2-gpm ratings. This compact unit includes 1¾-gal reservoir, precision gear pump, 110-v motor, safety relief valve, and self-centering control. • **Monarch Road Machinery Co.**, 1331 Michigan St. N. E., Grand Rapids 3, Mich.

▲ For more details circle NED-572 L on enclosed inquiry slip ▲

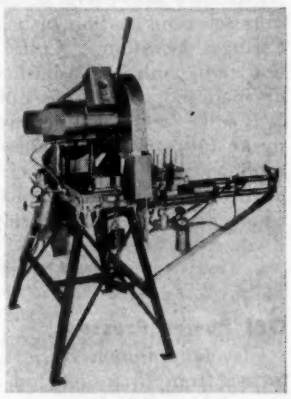
PRESSURE DROP INDICATOR
for up to 3000-psi hydraulic systems



Pressure drop across hydraulic filters is monitored by Model 91414 indicator, designed for use in hydraulic test stands and high-speed servo systems. Units are calibrated from 0 to 60 psi and can be used in systems rated up to 3000 psi and using standard hydraulic, MIL-0-5606, or phosphate ester base oils. Magnetic coupling to meter movement eliminates need for moving seals. Connections are ¼ in. NPTF, although AND-10050-4 connections are available. • **Boonshaft & Fuchs Inc.**, Hatboro Industrial Park, Hatboro, Pa.

▲ For more details circle NED-573 L on enclosed inquiry slip ▲

AUTOMATIC CUTOFF MACHINE
short run unit cuts 1¼ in. solids



Ferrous and nonferrous shapes up to 3 in. thick and solid stock to 1¼ in. are cut into standard bar lengths by this air-operated cutoff machine. It sets up quickly for semi or full-automatic cycling and is suited for short run or maintenance cutting. The 14-in. wheel is driven at 3000 rpm by a 5-hp, 220/440-v three-phase motor. Feed stroke, variable from 3/16 to 8 in., is actuated by 10 to 100 psi air pressure. Machine sells for under $2000. • **Cleveland Pneumatic Industries, Inc.**, Industrial Products Div., 2415 N. Burdick St., Kalamazoo, Mich.

▲ For more details circle NED-574 L on enclosed inquiry slip ▲

FREE!
If heat processing is your job— don't miss this "idea-packed" booklet

Never before have so many sound basic ideas on heat processing been available under one cover.

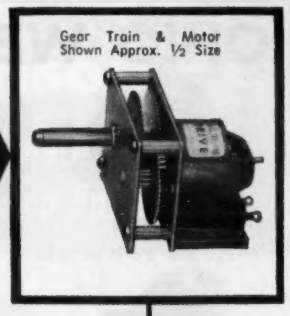
Written by engineering experts at Michigan Oven Company, it offers practical suggestions on what to look for in an oven regardless of your application.

Why not send for "The Handbook of Oven Facts"? It may be the most important decision you make today! Or, if you have a specific application, a MOCO representative will be pleased to call.

MICHIGAN OVEN COMPANY
419 Brainard, Detroit 1, Michigan

▲ For more details circle NED-576 L on enclosed inquiry slip ▲

LOW-COST
GEAR TRAINS



SMALL — LIGHT-WEIGHT
STURDY
and for almost
ANY SPEED RATIO

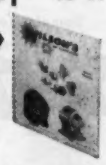
Manufacturers of moving displays, vending machines, turntables, instruments, scientific devices and many other items can now purchase standard or adapted gear trains for small motor operation with reduction ratios up to 1,334,838 to 1 — with little or no tooling costs.

Six standard frames — 336 styles — with steel frames, gears and shafts, brass pinions, shafts of required length and 3 types of bearings. Precision made, smooth running with minimum backlash. Complete line of motors available. And if your product requires a special gear train, we can produce it economically.

For small tooling charge, mounting brackets to accommodate other motors can be supplied.

6 Standard Frames
336 Styles
RATIOS Up To More Than 1,000,000 to 1.

FREE TO ENGINEERS



Write for book showing styles, dimensions, ratios, voltages, quantity prices.

Wilson's of Cleveland
P. O. Box 8995, Fort Lauderdale, Florida
Formerly of Cleveland, O.
Specialists in Small Mechanical and Electrical Components

▲ For more details circle NED-577 L on enclosed inquiry slip ▲

MORRISON
Roly-House

new STORAGE at less cost

PORTABLE STEEL UNIT
TWO SIZES
7'x7'
7'x10'4"

- The Morrison Roly-House has been tested to withstand snow loads up to 30 lbs. per square foot and wind velocities up to 100 miles per hour.
- All surfaces, both inside and outside, bonderized and painted
- Equipped with famous Morrison steel sectional upward acting Roly-Door.
- All parts pre-drilled for easy assembly.

MORRISON STEEL PRODUCTS, INC.
657 AMHERST ST. · BUFFALO 7, N. Y.

▲ For more details circle NED-575 L on enclosed inquiry slip ▲

MORRISON
Roly-Doors

Slash DOOR Costs
COMMERCIAL-INDUSTRIAL
Complete range of sizes to meet all requirements

Morrison Roly-Doors are sectional upward acting overhead steel doors designed for residential, commercial and industrial applications. They roll up and down quickly, quietly, smoothly and safely, completely inside the building. In Roly-Doors, Morrison offers an extremely rigid all-steel door of welded construction that minimizes the number and weight of component parts.

MORRISON STEEL PRODUCTS, INC.
657 AMHERST ST. · BUFFALO 7, N. Y.

▲ For more details circle NED-578 L on enclosed inquiry slip ▲

NEW low priced STAINLESS STEEL AIR CYLINDERS

BIMBA

No. 091
(1" stroke)

$5.45

Write For Latest Catalog and Name Of Nearest Distributor.

• 1 1/16" bore • single acting • stainless steel heavy wall tubing type 304 • exclusive BIMBA rolled edge construction • "U" cup piston seals • front nose mounting

BIMBA MANUFACTURING CO.
103 MAIN STREET MONEE, ILLINOIS

▲ For more details circle NED-579 L on enclosed inquiry slip ▲

OHIO WELD NUTS

RH NUT
Thread Size #6-32 to 3/8-16

WF NUT
Thread Size #6-32 to 3/8-16

SF NUT
Thread Size 5/16-18 to 1/2-13

WW NUT
Thread Size #6-32 to 3/8-16

OHIO flanged weld nuts provide extra-long thread engagement and are ideal for assemblies requiring strong primary fasteners. They can also serve as spacers or bearing surfaces where required.

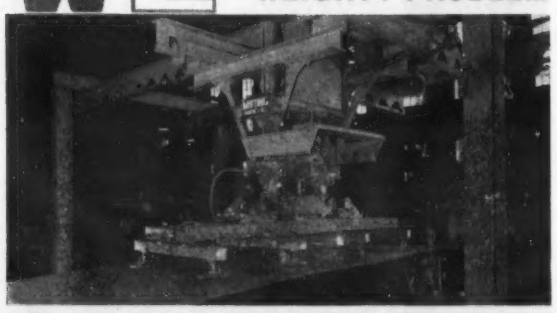
Samples and information furnished upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST STREET BEREA, OHIO

▲ For more details circle NED-580 L on enclosed inquiry slip ▲

WE HELPED PULLMAN-STANDARD SOLVE A WEIGHTY PROBLEM



BY USING PRESSUREGRIP

This automatic vacuum handling system is now cutting costs at Pullman-Standard by simplifying handling of heavy plate. Pressuregrip can speed handling of practically any material, any shape. Whiting will engineer the right Pressuregrip system to cut your handling costs, improve safety and speed production. Call on us to discuss your problem.

For more facts on Pressuregrip, ask for bulletin V-102.

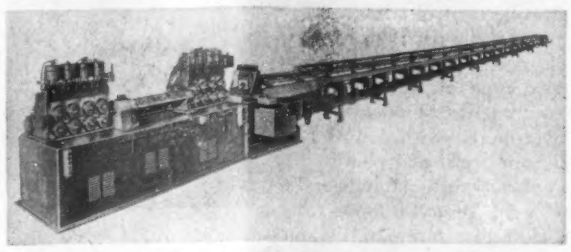
Whiting Corporation, 15660 Lathrop Ave., Harvey, Illinois

WHITING

▲ For more details circle NED-581 L on enclosed inquiry slip ▲

ROD STRAIGHTENER & CUTTER has 1/2 to 1-in. rod capacity

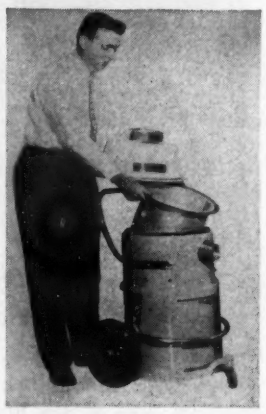
Crank action high speed flying shear type cutoff and two-speed rotary straightener arbor with dual center straightening dies are incorporated in the No. 12-FA



rod straightening and cutting machine. It handles 1/2 to 1-in. rod from coils. Other features are pushbutton operated pneumatic feed pressure for exact feed control and coil-end pull-through without twisting, electrically operated air clutch and air brake, and sliding gear transmission with eight feed speeds from 115 to 350 fpm. Machine handles cold drawn or hot rolled rod, the latter using an optional exhaust hood and blower to draw off loose scale. • **Lewis Machine Co.**, 3441 E. 76th St., Cleveland 27, Ohio.

▲ For more details circle NED-582 L on enclosed inquiry slip ▲

PORTABLE VACUUM CLEANER collects radioactive, toxic dusts



The last traces of toxic and radioactive dusts from industrial processes are collected and handled by this Absolute filter portable vacuum cleaner. Filter is tested for minimum efficiency of 99.97 per cent on particles down to 0.3 micron and is easily removed and replaced with minimum recontamination hazard. Air is prefiltered through a Dacron bag supported on a frame which permits self-rejuvenation of bag during operation. Collection tank with 1 2/3-bushel dry-material capacity is quickly released for cleaning. It is suitable for modified wet pickup. Unit is powered by an industrial 1-hp motor with a by-pass for motor-cooling air supply. Exhaust air-flow pattern will not disturb uncleaned areas of floor or room. Unit's flow rate is 154 cfm. • **Cambridge Filter Corp.**, 738 E. Erie Blvd., Syracuse 1, N. Y.

▲ For more details circle NED-583 L on enclosed inquiry slip ▲

OBI Power Presses

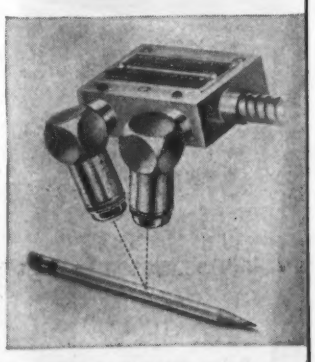
Cleveland Punch & Shear Works Co.—OBI power presses from 75 to 200 ton capacity are detailed in 8-page folder OBI-3'60. A selection chart featured in the brochure points up the standard-extra features found on these presses.

▲ For more details circle NED-584 L on enclosed inquiry slip ▲

Photomation Miniature "ELECTRIC-EYES"

Serving Industry for Over a Quarter Century

- Packaging
- Textiles
- Glass
- Cigarettes
- Candy
- Drugs
- Printing
- Beverage
- Cosmetic
- Pharmaceutical and process industries



The miniature electric-eyes are engineered for the production line. They are small enough to fit into "impossible places" for registration, monitoring and general production control. Direct or partial cut-off...close adjustments for light strength and sensitivity of pick-up.

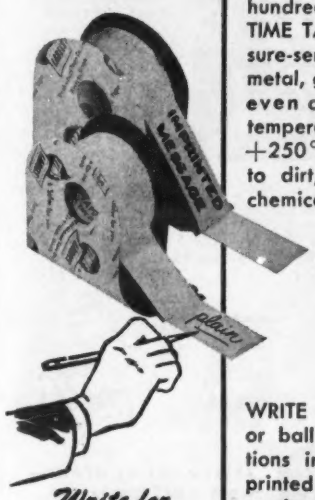
From coast-to-coast a staff of engineers is available to handle your problems. On the spot quotes and recommendations. Write for descriptive material.

Photomation inc.
96 SOUTH WASHINGTON AVE., BERGENFIELD, NEW JERSEY

ELECTRONIC INSTRUMENTS and CONTROLS for INDUSTRY

▲ For more details circle NED-585 L on enclosed inquiry slip ▲

INDUSTRIAL TAPES



Plain or pre-printed labels for hundreds of industrial uses! TIME TAPE & LABELS are pressure-sensitive . . . they stick to metal, glass, plastic, rubber . . . even cloth! They withstand temperatures from −120° to +250° with absolute resistance to dirt, grease, moisture and chemicals.

TIME SELF-STICKING LABELS VINYL COATED

WRITE ON IT! Use pen, pencil or ball point. Unlimited variations in stock or custom pre-printed labels available for numbering, inventory, inspection, etc.

Write for samples and literature!

PROFESSIONAL TAPE CO., INC.
Dept. N.S.P. 355 Burlington, Riverside, Illinois

▲ For more details circle NED-586 L on enclosed inquiry slip ▲

NEW PASLODE "CLIPPER"

Photo courtesy of Kroehler Mfg. Co.

PORTABLE—CLIPPER weighs only 5¾ pounds, is well-balanced, easy to handle

AIR POWER—a squeeze of the trigger and air power does the hard work, fast

MAGAZINE FEED—loading takes only a few seconds, no wasted clips, no wasted time. Magazine holds 50 to 75 clips, depending on size

SPECIAL CLIPS—steel clips developed by Paslode come in two sizes: S-1 for wires 7-11 ga., B-1 for wires 11-13 ga. Other sizes are under development

New power tool takes over a slow, hand-bruising job and does it better, faster, easier

• This is the first and only tool of its kind. The Paslode CLIPPER substitutes air power for muscle power, wraps a clip tightly around two or more wires in a fraction of a second, at the touch of a trigger...saves time and effort and reduces costs.

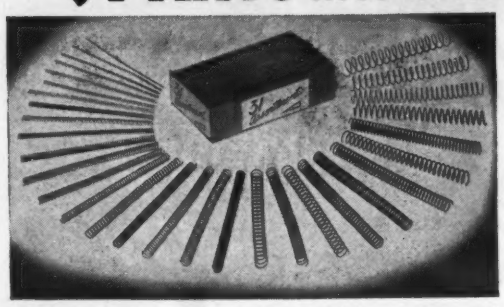
The CLIPPER and the clips it uses were designed and developed by Paslode for the furniture and bedding industries. It has been proved in production line use. Operation of the tool is simplicity itself. Reloading takes only a few seconds. Write for data sheet.

PASLODE COMPANY
Division of Signode Steel Strapping Company
5860 Northwest Highway, Dept. ED, Chicago 31, Ill.

Manufacturers of staples and hand-operated and air power stapling tools.

▲ For more details circle NED-587 L on enclosed inquiry slip ▲

Stock SPRING assortments



Our #31 (compression) Spring Assortment folders are now available and yours for the asking. Our #28 (extension) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work. To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.
We also manufacture to special order.
Send samples or prints for quotation.

Find Your Nearest Paragon Agent in The Yellow Pages

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle NED-588 L on enclosed inquiry slip ▲

DESIGNED FOR MODERN PIPING!

THE ECON-O-MISER BALL VALVE

COMPARE THE ECON-O-MISER WITH ANY ON-OFF VALVE!

- Remove 4 bolts — the center section lifts out — unions are eliminated!
- ¼" through 6" size range
- Quarter-turn operation
- Smooth round Two Way Flow
- No metal to metal contact — wiping action assures longer life

WRITE FOR COMPLETE TECHNICAL INFORMATION!

WORCESTER
VALVE CO., INC. / WORCESTER 10, MASS.

▲ For more details circle NED-589 L on enclosed inquiry slip ▲

NEW BOOKLET from SIGNODE

Newly revised 38-PAGE EDITION
...How to simplify and reduce the cost of handling, storing, shipping and receiving, with Signode steel strapping methods, tools and equipment.

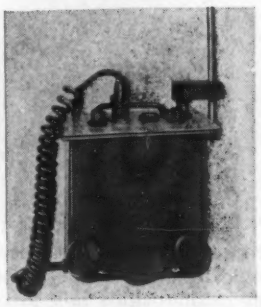
Describes and illustrates various kinds of Signode strapping, seals, pneumatic, electric and hand-operated strapping tools, automatic strapping machines, dispensers, and other accessories.

Send today for your FREE COPY

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

▲ For more details circle NED-590 L on enclosed inquiry slip ▲

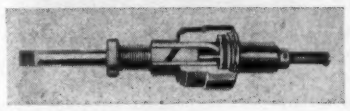
RADIO TELEPHONE portable unit is transistorized



Voice communication on any pretuned frequency from 2.0 to 3.5 megacycles is possible with the BRT 1088 portable radio telephone. The compact, self-contained, transistorized unit is pretuned to a 2.67 megacycle frequency before shipment. Its molded glass fiber transceiver case is sealed to protect the components from immersion, high temperature, and humidity. Power source is a rechargeable 1.25 amp-hr 22-v nickel-cadmium battery. Range is 5 miles on land and 10 miles over water. The 10 x 4½ x 9-in. unit weighs 10 lb less antenna, and is furnished with carrying case, handset, auxiliary charging cable, two antennas, and instruction book. • **General Precision Inc.**, Kearfott Div., 1150 McBride Ave., Little Falls, N. J.

▲ For more details circle NED-591 L on enclosed inquiry slip ▲

RECESSING TOOLS operate automatically



Four basic series are available in line of automatic recessing tool holders, two for piloting in a jig or fixture and two for piloting in work. Each type is made in four sizes for a wide range of work. Features include double cam track in a strong shank, small helix angle for uniform feed with minimum pressure, and short overall length. Cutters with a shoulder and interlocking serrations are held securely with two set screws. • **Erickson Tool Co.**, 34350 Solon Rd., Solon, Ohio.

▲ For more details circle NED-592 L on enclosed inquiry slip ▲

ROTATING CONNECTOR prevents twisting of electric lines

Silver plated contacts of virtually wearproof design are incorporated in this ball-bearing rotating electric connector which permits intermittent or continuous free rotation of electrical lines and conduit without twisting. Various drip-proof or sealed configurations with several types of connectors, including axial type for rotating or oscillating applications, are available. Inlets will accept rigid conduit, flexible B-X cable, and all standard heavy duty single or three-phase wiring. Adequate electrical capacity for most industrial applications can be built into the unit. Standard 2½ x 5-in. model is rated at 5 hp, 220 v, 15 amp. • **Ward-Riddle Co.**, 241 Myrtle St., Ravenna, Ohio.

▲ For more details circle NED-593 L on enclosed inquiry slip ▲

NEW Signode Sealer for 2" Strapping

MODEL **UB-250**

- Enforces proper sealing
- Makes stronger joints
- Stronger, lighter, shorter
- More durable

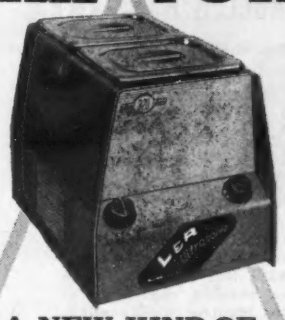
The new UB-250 with "Sure Seal" action gives double assurance of properly made joints in 2" heavy duty strapping. Once the sealing action is started, the handle stroke must be completed to release the sure-seal mechanism. Improved crimping makes for a stronger, safer joint and increases resistance to shock loads.

This new tool is stronger and lighter than previous models, three inches shorter, and requires less maintenance. Write for further information, or if you prefer, ask the Signode man near you for a demonstration.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

▲ For more details circle NED-594 L on enclosed inquiry slip ▲

PEAK POWER



A NEW KIND OF PRECISION ULTRASONIC CLEANING

The new L & R Ultra-Cleen '320' has an electronic circuit that transmits **peak power** directly to the transducerized tank. The transducerized cleaning tank and the rinse tank are 5½" square by 3" deep. Just set the electrical timer to blast away all dirt, grease, foreign particles—get components microscopically clean. . . . Unconditionally guaranteed for 1 year. Write today for complete data on the '320' and other ultrasonic cleaning equipment. **$187.50**
Second tank transducerized (at factory), **$74.50.**

L & R MANUFACTURING COMPANY
579 Elm Street, Kearny (Arlington), New Jersey
29 EAST MADISON STREET, CHICAGO 2, ILLINOIS
406 SOUTH MAIN STREET, LOS ANGELES 13, CALIFORNIA

▲ For more details circle NED-595 L on enclosed inquiry slip ▲

Johnson

Self-Lubricating Bearings Hold Oil Like a Sponge

Over 400 Sizes — 3 Basic Types — Available from Stock

Here's why: As products of Johnson Bronze's precision powdered bronze metallurgy process, self-lubricating bearings hold oil like a sponge because their porous structure holds up to 35 percent of lubricating oil by volume. When the bearing is in use, oil is metered to the shaft; at rest, the oil is reabsorbed by the pores.

Available in 400 standard stock sizes and three different types, self-lubricating bearings are widely used . . . in small fans, packaging machinery, printing equipment and self-aligning applications.

Get complete details on these quality powdered bronze bearings by contacting your nearby Johnson distributor or by writing to Johnson Bronze Company.

Johnson Bronze Company
New Castle, Pa.
West Coast Plant: Oakland 8, Calif.

▲ For more details circle NED-596 L on enclosed inquiry slip ▲

NEW SIGNODE Sealer for 1¼" strapping

Model B-1435

- Enforces proper sealing
- Makes stronger joints
- Stronger, lighter, shorter
- More durable

Lighter by 4 pounds! Shorter by 3½ inches! Signode's new B-1435 heavy duty sealer guarantees properly made joints with less sealing effort. Sealing stroke must be completed to release sure-seal mechanism—virtually eliminating miscrimps. New crimp design also assures better joint strength under shock. The new tool is easy to use, requires less maintenance. Write for further information, or if you prefer, ask your nearest Signode man for an on-the-job demonstration.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

▲ For more details circle NED-597 L on enclosed inquiry slip ▲

FF ROLLER GUNS
for automatic packaging units

INSURE BETTER BOND CUT GLUING COSTS 83%

STRIPING ACTION

QUICK-CHANGE TIPS

RIBBON COATING

Exclusive, fascinating stripe-action guns lay down multiple beads of adhesive, use up to 83% less glue, yet insure faster, better bonding regardless of machine speed. Ideal for carton sealing, box and tray assembling, package gluing, etc. FF equipment also eliminates "open" glue pots which minimizes clean-up and maintenance time. Quick-change roller tips, in widths to 4½", permits guns to be reset in seconds for different adhesive patterns. Air pressure adjustment for ribbon-coating.

In addition to roller guns, the FF line includes over 400 units to meet a wide range of industrial gluing needs. All models designed for both automatic and manual use. Fully patented and guaranteed. Easy to install on existing equipment. Our catalog should interest you . . . send for one today.

JOHN P. FOX COMPANY, INC.
FF 1107 S. Mountain
Monrovia, California

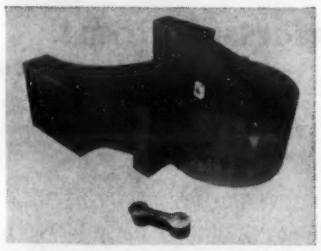
▲ For more details circle NED-598 L on enclosed inquiry slip ▲

PIPE CLAMP
holds pipes at right angles

Two pipes or tubes of different diameter are firmly held at right angles by this Right-Angle tube clamp. A threaded bolt passes through one pipe and is drawn up by a nut. Tightening the nut causes the clamp jaws to tighten on both pipes at once. Where pipes are carrying fluid, another model is available which does not require the drilled hole in one pipe. Temporary plumbing, light scaffolding, experimental fixtures, racks, equipment hangers, and display racks are typical applications. • **Hunter Spring Co.**, 1 Spring Ave., Lansdale, Pa.

▲ For more details circle NED-601 L on enclosed inquiry slip ▲

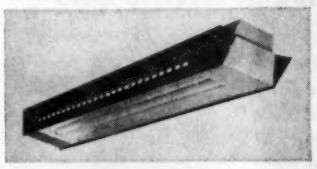
ARMS, RODS & LINKAGES
are flame-cut from steel plate



Pitman arms, connecting rods, and linkages to meet customers' requirements are flame-cut from high or low carbon, manganese, silicon, high carbon nickel, nickel chromium, and molybdenum steels. Quantities from one to thousands can be produced to close tolerances and with a finish that requires a minimum of machining. Parts in practically any size and from ¼ to 28 in. thick can be made. • **Reliable Steel Plate Co.**, 2330 E. 79th St., Cleveland 4, Ohio.

▲ For more details circle NED-602 L on enclosed inquiry slip ▲

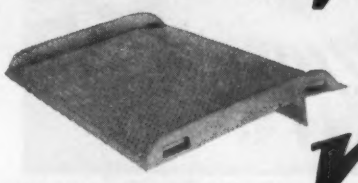
INFRARED COMFORT HEATERS
for indoor or outdoor use



By transferring radiant energy directly from the source to object without heating the intervening air, Series CH electric infrared comfort heaters are suited for outdoor or indoor heating. They can be used for supplemental building heating in areas where large air movements make conventional space heating ineffective, or for occasional or localized heating. Units are mounted overhead as easily as lighting fixtures. They use Fostoria linear quartz tubes or standard high temperature T-3 linear quartz lamps. Two series offered are 25½ and 47½ in. long and operate on 120, 240, or 480 v with one, two, or three tubes or one or two lamps. Inputs range up to 3200 and 6000 w in the two series. • **Fostoria Corp.**, Dept. 86, 1200 N. Main St., Fostoria, Ohio.

▲ For more details circle NED-603 L on enclosed inquiry slip ▲

Check Safety Engineered mpm MAGNESIUM DOCKBOARDS



Light-light weight, non-skid tread, positive position-lock, tire-saving beveled-round side rails, sure strength — are only a few advantages of mpm MAGNESIUM Dockboards! Perfectly job-fitted, they speed up loading, unloading, save time and money, men and machines, product and profits! Write or phone for the mpm expert — and prove it!

Write for Bulletin TR-656 covering technical details on mpm Standard and Job-Engineered Dockboards.

mpm MAGNESIUM PRODUCTS OF MILWAUKEE, INC.
740 N. Plankinton Ave., Milwaukee 3, Wis.

▲ For more details circle NED-605 L on enclosed inquiry slip ▲

This Hopper on your truck

CAN CUT HANDLING COSTS 50%

One man with a lift truck can cut handling time and effort in half with Roura *self-dumping* hoppers. Pull a latch and the Hopper *automatically* dumps itself, rights itself, locks itself. Thousands of Roura Hoppers are now in use handling scrap metal, hot forgings . . . in fact, *any* bulk material or component parts. Eight sizes, ⅓ to 4 yards capacity . . . made of steel plate, stainless or galvanized. Standard models shipped from stock. For detailed specifications, write:

ROURA Self-Dumping HOPPER

ROURA IRON WORKS, INC.
1415 Woodland, Avenue,
Detroit 11, Michigan.

▲ For more details circle NED-599 L on enclosed inquiry slip ▲

Constant Sealing ACTION WITH . . .

DOUBLE ACTING ONE-PIECE ALLIS PISTON CUPS

This is a combined piston and cup packing unit. Simple, extremely economical, it serves the same purpose as far more complicated and expensive pistons. Easy to install, downtime is held to minimum, cannot be installed backwards. Design simplicity means fewer inventory of parts. Gives long life, dependable service. Made of specially compounded rubber bonded to solid metal disc.

Send for Free Bulletin 108

SINCE 1899
CHICAGO-ALLIS MFG. CORP.
Producers of CHICAGO BELTING • ALLIS RUBBER • ALLIS SEAL Products
130 NORTH GREEN STREET • CHICAGO 7, ILL.

▲ For more details circle NED-606 L on enclosed inquiry slip ▲

DIAL THIS PUMP FOR THICK OR THIN

Vari-Flo changes capacity instantly

If you're moving a variety of liquids—or one liquid at changing temperatures—there's no need to use several pumps. One Blackmer Vari-Flo can solve your problem, save you time and money. With Vari-Flo, you just dial a low capacity for thick liquids, then gradually increase the rate as the liquid gets thinner. Even reverse the flow without changing pump speed or direction! Vari-Flo does all this with an ordinary, standard-speed motor. See how it works to solve your pumping problems. Write for Bulletin 600.

"liquid materials handling"® equipment
BLACKMER / vari-flo pumps
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

▲ For more details circle NED-600 L on enclosed inquiry slip ▲

THE THINKING MAN'S STRAINER

Blackmer Ezy-Kleen Strainers filter best. Strainer basket open area up to 10 times greater than piping area. Protects pumps against damaging foreign materials, makes pumpage definitely less irritating to pump and piping, keeps pressure drop to a minimum. Standard or steam-jacketed, 1¼" through 6" pump sizes, 20 to 750 GPM flow rates, baskets in three grades for wide volatile-viscous range. Get more enjoyment out of your next pump . . . hook up a Blackmer Strainer. Write for Bulletin 400.

"liquid materials handling"® equipment
BLACKMER / ezy-kleen strainers
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

▲ For more details circle NED-604 L on enclosed inquiry slip ▲

ONE PUMP FILLS TIN CANS OR TANKERS

Vari-Flo changes capacity instantly

Do you have pumping jobs that vary from a "dribble" to a "gusher"? Then you should learn about Blackmer Vari-Flo . . . the new variable-capacity pump that might do the job several pumps are doing for you now. The Vari-Flo is much like other Blackmer vane-type rotary pumps with the important addition of a dial-operated "flow changer". Works with an ordinary standard motor, too . . . no costly variable-speed drive needed. Whether you're filling a tin can or a tanker, you can dial the proper flow rate as easily as phoning your Blackmer distributor. Give him a call or write for Bulletin 600 if you see a chance for an application.

"liquid materials handling"® equipment
BLACKMER / vari-flo pumps
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

▲ For more details circle NED-607 L on enclosed inquiry slip ▲

Economical... attractive... uniform

MACWHYTE CABLE ASSEMBLIES

"Safe-Lock" wire rope assemblies are made in a wide range of sizes and types for machine parts, controls, and operating devices. They are fabricated to the exact size and length you need, with fittings on one or both ends — ready to use for safe, easy, quick, low-cost installation. Ask for catalog 5601. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A. 215

MACWHYTE Wire Rope COMPANY

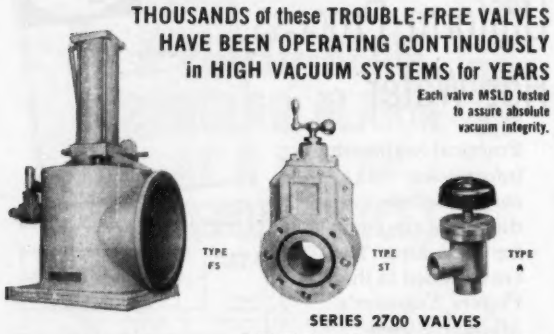
▲ For more details circle NED-608 L on enclosed inquiry slip ▲

HIGH VACUUM VALVES

Series 2700 Sizes 2" to 48" All over 12" air operated

THOUSANDS of these TROUBLE-FREE VALVES HAVE BEEN OPERATING CONTINUOUSLY in HIGH VACUUM SYSTEMS for YEARS

Each valve MSLD tested to assure absolute vacuum integrity.



VALVE FEATURES

- Low impedance — full opening — short flow path.
- Pneumatic, toggle or hand-crank operated.
- No scuffing of valve seat gasket in closing and opening.
- Lightweight aluminum or fabricated steel. Compact design.
- Each valve individually tested under operating conditions with mass spectrometer-type leak detector.

SERIES 2700 VALVES

TYPE FS-Pneumatic, angle-type. Flanged connections with O-ring groove on inlet. 10" thru 48".

TYPE ST-Pneumatic, toggle or hand-crank operated. Straight through type. Flanged connections with O-ring groove. 2" thru 12" and larger.

TYPE A-Pneumatic, toggle or hand wheel operated. Angle type, threaded or sweat connections. ⅝" thru 1½".

• Two-stage, low impedance, water and liquid nitrogen-cooled baffles available in the complete range of sizes for use with Series 2700 Valves.

We also design and manufacture Vacuum Furnaces, Pumping Systems, Altitude Simulation Equipment, Leak Detection Systems, Impregnation Facilities, Custom Engineered Plants.

Write for complete data on our Series 2700 High Vacuum Valves

GENERAL VACUUM CORPORATION

HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

▲ For more details circle NED-609 L on enclosed inquiry slip ▲

THE "PERFECT" SLING IS BRAIDED!

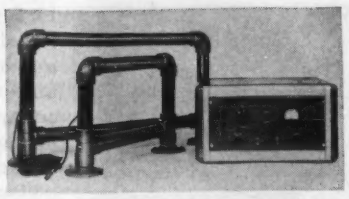
MACWHYTE ATLAS SLINGS

Macwhyte Atlas Slings are braided to provide a perfectly balanced sling — extra flexible, lightweight, kink-resistant, load hugging, easily handled. Available in a wide variety of types, sizes, and fittings. Ask for Sling Bulletin 5308R. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A. 214

MACWHYTE Wire Rope COMPANY

▲ For more details circle NED-610 L on enclosed inquiry slip ▲

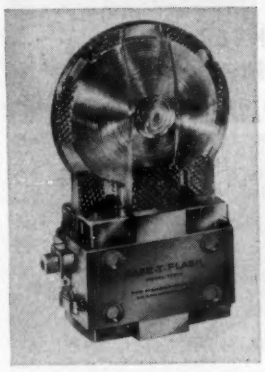
ELECTRONIC METAL DETECTOR
locates ferrous, nonferrous metals



Thorough detection of ferrous and nonferrous tramp metal in cement, chemical, textile, plastic, and food products is assured with this electronic Metablock Metal Monitor. It consists of a search coil, usually installed around a nonmetallic conveyor belt or weigh feeder, and a control unit. Any metallic object moving through the coil field produces a signal which can be used to trigger an alarm; stop the conveyor; or to mark, divert, or reject the material containing the metal. Coil is sealed in PVC plastic pipe for protection against moisture, dust, and weather. • **Morehouse Machine Co.**, 1742 Sixth Ave., York, Pa.

▲ For more details circle NED-611 L on enclosed inquiry slip ▲

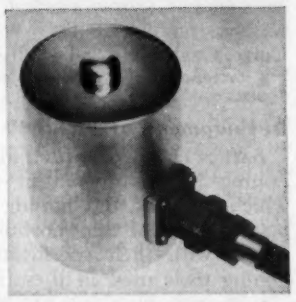
SAFETY LIGHT FLASHER
transistorized, battery operated



Transistorized Safe-T-Flash light for mounting in saw horses and barricades is offered in Model 1751A which produces 55-millisecond flashes at rate of 135 per minute and Model 1751B which produces 110-millisecond flashes at 67 per minute. Other rates can be ordered. The 7-in. lens and battery case are a one-piece enclosure of amber-colored high-impact plastic that resists cracking under normal use. Corrosion-resistant steel housing has a heavy-duty catch. Lamp and sealed-in transistor circuit are included in the shock resistant Flash Pak which is easily attached to a 6-v battery. Battery and lamp changes are easily made. • **Fisher-Pierce Co.**, 170 Pearl St., South Braintree 85, Mass.

▲ For more details circle NED-612 L on enclosed inquiry slip ▲

LOAD CELLS
for load ranges up to 50,000 lb

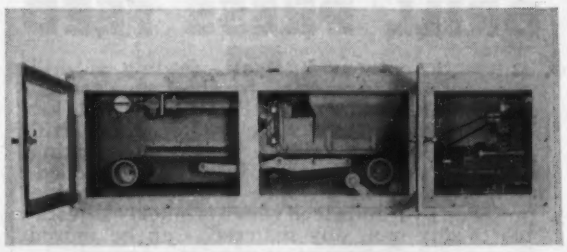


Both tension and compression measurements can be made with these load cells which can be used in temperatures up to 750° F. Sensing element consists of weldable strain gages in a four-arm Wheatstone bridge which can be compensated for low zero shift with temperature, change in gage factor versus temperature, and change in the modulus of the load column with temperature. Cells are offered in 5000, 10,000, 20,000, and 50,000 lb ranges and are accurate within ¼ per cent, full scale. Accuracy can be increased to within 0.10 per cent of scale. Cells are provided with either 120 or 350-ohm outputs and equipped with five-prong, high temperature plugs. • **Micro-Test, Inc.**, 1718 21st St., Santa Monica, Calif.

▲ For more details circle NED-613 L on enclosed inquiry slip ▲

DRY CHEMICAL FEEDER
handles powder, granule, lump form

Balanced weighing mechanism of the Type G Gravimetric chemical feeder gives an accuracy within ±1 per cent of the set rate over an operating range of



20:1. It handles all dry chemicals such as used in water and waste treatment in powder, granule, or up to ¾-in. lump form. Feeder is housed in a dust-tight enclosure. Electrical and operating controls are integral parts, but separated from the feeding mechanism. Agitators within the hopper prevent "arching" of chemicals. • **Infilco Inc.**, Box 5033, Tucson, Ariz.

▲ For more details circle NED-614 L on enclosed inquiry slip ▲

MACWHYTE MONEL METAL WIRE ROPE RESISTS CORROSION

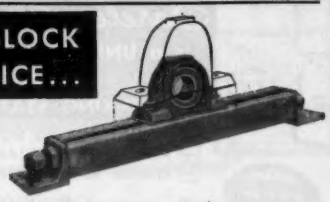
Macwhyte Monel Metal wire rope is a preformed wire rope of a high-nickel-content alloy steel. Monel Metal is more resistant to corrosive substances than any other commercial metal. Monel Metal wire rope will resist pickling solutions, salt water, fruit juices, food acids, soaps, and alkaline substances. It also resists such acids as sulfuric, hydrochloric, and hydrofluoric. It is ideal for use on hoists, conveyors, and controls exposed to highly corrosive conditions.

For more information, or specific recommendations for your application, write: Macwhyte Wire Rope Company, Kenosha, Wis., U. S. A. Ask for bulletin 49-30. 186

MACWHYTE Wire Rope COMPANY

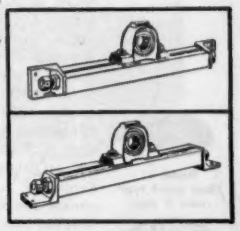
▲ For more details circle NED-615 L on enclosed inquiry slip ▲

USE PILLOW BLOCK OF YOUR CHOICE...



Versa Mount

TAKE-UP FRAME
Mount Side or Top



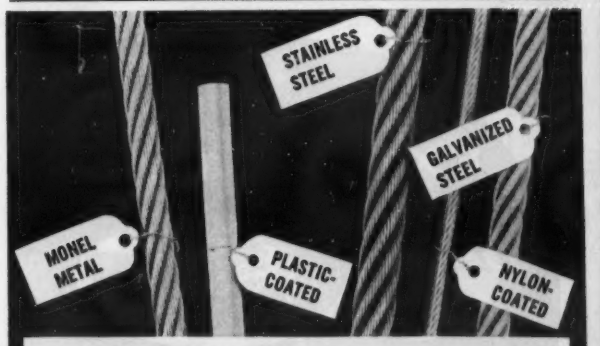
- Use with any standard pillow block. One basic frame size for all makes and types—ball, roller or babbitted.
- Mounts either side or top. Simply loosen locknut and turn mounting flange to desired position.
- Easily installed on old or new equipment.
- Delivery from stock in sizes for ½" to 2⅞" pillow blocks, travel lengths from 2" to 36".
- Mounting screw is totally enclosed for protection against dirt, contamination, etc., yet readily accessible when lubrication or cleaning is desired.
- All parts can be quickly disassembled without special tools and *are individually replaceable.*

Request Bulletin V-647 and Prices.

LOVEJOY FLEXIBLE COUPLING CO.

4803 W. LAKE STREET • CHICAGO 44, ILLINOIS

▲ For more details circle NED-616 L on enclosed inquiry slip ▲



Here are 5 Corrosion-Resisting Wire Ropes

These wire ropes are available to you in a variety of sizes to meet your many needs. Hundreds of industries — aircraft, chemicals, food processing, petroleum refining, rubber, yachting—rely on the ability of these wire ropes to give more economical service under various corrosive conditions.

Describe your needs and we'll gladly make wire rope recommendations. Macwhyte Wire Rope Company, Kenosha, Wisconsin, U. S. A. 217

MACWHYTE Wire Rope COMPANY

▲ For more details circle NED-617 L on enclosed inquiry slip ▲

Robinson Gyro Sifters for those who want the best

To sift chemicals, food products, cosmetic powders, sawdust, charcoal, and an endless list of free flowing materials, specify Robinson Gyro Sifters with single or multiple sieves. Bulletin G-260 gives the facts.

pneumatic conveying
materials handling
mixing
sifting
cutting
grinding
crushing

The YOUNG Machinery Company, Inc. (Robinson Division) Muncy, Pennsylvania

V/103

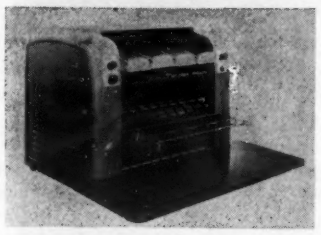
For more details circle NED-618 L on enclosed inquiry slip

PORTABLE POSTAGE METER prints directly on any size package

U. S. Post Office licensed Postalia postage meter is a 5-lb, one-hand operated unit that prints directly on any size envelope or package. An automatic inking mechanism delivers several thousand imprints before refill is required. Meter imprints up to $9.99 postage and has ascending and descending counters on its face to facilitate bookkeeping. Postage prepayment can be up to $9990. Any promotional message or symbol can be imprinted along with stamp value by inserting a plate. A snap-in adjustment allows use of either manual or electric drive letter sealer, latter with a capacity of 6000 letters per hour and accommodating envelopes up to 3/8 in. thick. Safety devices prevent unauthorized use, double stamping, and wrong postage setting. Lease rate is $8.50 per month. • **Tele-Norm Corp.**, 57 W. 42nd St., New York, N. Y.

For more details circle NED-621 L on enclosed inquiry slip

TABLE-TOP WHITEPRINTER processes 19-in. wide dry diazo material at speeds up to 60 fpm



Versatile, table-top Super Ozamatic whiteprinter will process any dry diazo sensitized material up to 19 in. wide at speeds from 0 to 60 fpm. Machine turns out up to 2000 letter-sized copies an hour and reproduces anything typed, printed, written, or drawn on translucent paper, film, plastic, or tracing cloth. Unit has a 2200-w mercury vapor printing lamp which delivers 100 w of high intensity illumination per inch.

An air-cooling system keeps cylinder heat low to allow plastic coated materials, diazo films, and photographic films to be run without damage to the original. Cylinders can be wiped clean inside and out while machine is in motion. Machine measures 33 1/8 x 28 1/2 x 24 1/2 in. without 40-in. feedboard and weighs 420 lb. It is UL-approved, operates on 220-v single-phase ac, and has a gray enamel ripple finish. Various accessories are available. • **General Aniline & Film Corp.**, Ozalid Div., 64 Corliss Lane, Johnson City, N. Y.

For more details circle NED-622 L on enclosed inquiry slip

Development of Honing

Barnes Drill Co.—Internal, external, and straight line honing are considered in the 16-page Catalog 200 which explains the honing process and its development. Vertical and horizontal honing machines are shown with their specifications, as is the variety of honing tools used in these machines.

For more details circle NED-623 L on enclosed inquiry slip

for as little as $22.00 COMPLETE IN U.S.A.

for this production boosting

'TRICO-MIST' COOLANT SYSTEM

For drilling, tapping, milling, sawing, grinding, etc. Removes heat from cutting edges of tools and work. Feeds can be increased considerably, finer finishes and accuracy are obtained. TRICO-MIST absorbs heat, thereby quenching it faster than flood coolants which only transfer it. Chips slide freely up the tool face and are blown away automatically.

Simple needle valve controls size and volume of mist spray. Attaches to shop air line. Available with one and five gallon containers — single or multiple outlets — single or dual valve control.

GET FACTS

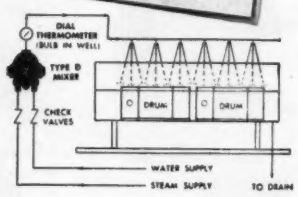
SEND FOR BUL. 37

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

For more details circle NED-625 L on enclosed inquiry slip

How To Maintain Uniform Process Hot Water

Practical engineering information and easy-to-follow diagrams are yours for the asking. They are included in the Powers *Engineer's Manual, Steam-Water Service.* Other sections cover:



- Domestic Hot Water
- Hot Water Storage Heaters
- Instantaneous Heat Exchangers
- Heat Exchangers For Cooling
- Fuel Oil Heaters
- Pressure Reducing
- Jacket Water Cooling
- Two-Temperature Hot Water Systems

Send for your free manual today!

POWERS CONTROL

THE POWERS REGULATOR CO.
Dept. 1160, Skokie 44, Illinois
In Canada: The Powers Regulator Co. of Canada Ltd. Downsview, Ontario

For more details circle NED-626 L on enclosed inquiry slip

Careless Smoking is a UNIVERSAL PROBLEM

SIPCO DUNKING STATIONS

- PROMOTE GOOD HOUSEKEEPING
- PREVENT FIRE HAZARDS
- REDUCE MAINTENANCE

Thousands of BUSINESSES, INSTITUTIONS and INDUSTRIES have installed SIPCO DUNKING STATIONS; ending once and for all the problem of the careless smoker. SIPCO DUNKING STATIONS are HIGH QUALITY safe smokers, built for a lifetime of hard use and abuse. Canisters and lids are constructed of heavy-duty cast aluminum. There are MIDGET size, STANDARD size and JUMBO size models. There are WALL models, PERMANENT MOUNTING models and FLOOR STAND models. OVER 20 MODELS IN ALL. They are available with grey (duo-tone) crinkle finished canisters and satin finished lids, or DELUXE bright polished finishes. Where needed, they can be furnished with a wide variety of attractive MESSAGE SIGNS (See illustrations).

WHEREVER A SMOKING PROBLEM EXISTS, THERE IS A SIPCO MODEL THAT EXACTLY FITS THE NEED.

WRITE FOR ILLUSTRATED BROCHURES

STANDARD INDUSTRIAL PRODUCTS CO.
DEPT. D • 3527 FARMINGTON RD. • PEORIA, ILLINOIS

For more details circle NED-619 L on enclosed inquiry slip

Mystik Mylar Tape is composed of a smooth, thin, highly flexible polyester film backing and an instant adhering silicone adhesive. Consistent performance under exacting electrical, and limited space conditions. (Thermal limits, −80 to +325°F.). One of the most effective electrical insulating tapes.

Other Mystik Brand electrical tapes:

7000-G: For extreme temperature demands (−110 to plus 550°F.). Tightly woven Fiberglas® backing. Superior electrical qualities.

7100-G: Same characteristics as 7000-G with silicone adhesive on two sides.

MYSTIK SELF-STICK

Write for complete information
Mystik Adhesive Products, Inc.
4234 West Drummond Place, Chicago 39, Ill.

For more details circle NED-620 L on enclosed inquiry slip

Want to Cut DRILLING COSTS?

Get INCREASED PRODUCTION • IMPROVED QUALITY • LONGER TOOL LIFE

with a Bellows DRILL PRESS FEED

Automatic or semi-automatic feeding of drill press spindles is practical for short runs as well as long. The Bellows Drill Press Feed is quickly attached to the star wheel shaft of any drill press, requires but a simple touch on the starting control handle to operate; features "Controlled-Air-Power" rapid advance and retract, and a precision hydraulic feed which is quickly adjustable to any tool, any material. Can be moved from one drill press to another in minutes.

Write today for free Bulletin DF 110R. Address Dept. NED 1160

Bellows-Valvair 637-C
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-624 L on enclosed inquiry slip

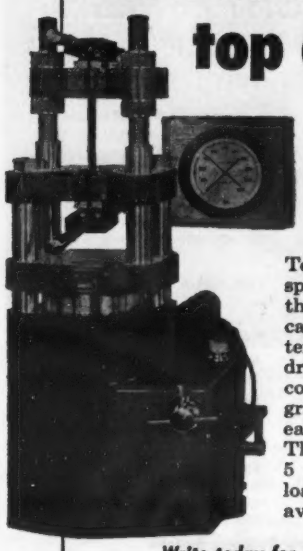
As modern as today, Office Valet Wardrobe Racks fit in anywhere, harmonize with any decor. They hold hats, coats, overshoes and umbrellas efficiently (accommodate 3 persons per square foot of floor space) and properly (with hats on dustproof shelves; coats on spaced apart wooden garment hangers — aired, dry and "in press"). Built for lifetime service of heavy gauge welded steel and finished in choice of colors and baked finishes. Exactly matching add-on units (end to end or back to back) always available.

Write for Catalog OV-8

VOGEL-PETERSON COMPANY
RT. 83 AND MADISON ST. • ELMHURST, ILL.

For more details circle NED-627 L on enclosed inquiry slip

Tensile test with top accuracy



Use this simple hydraulically powered fast-acting tester

Test the tensile strength of spotwelds, strip, wire, anything within its 20,000 lb. capacity. The Model ST-1 tensile tester has a hydraulically powered, easily controlled ram. Self-acting grips are open-sided for easy specimen insertion. They will accept specimens 5 to 9″ in length. Various load gauges and grips are available.

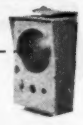
Write today for more information

DETROIT TESTING MACHINE COMPANY

9394 Grinnell Avenue, Detroit 13, Michigan

▲ For more details circle NED-628 L on enclosed inquiry slip ▲

New from Kidde!



A PHOTO-BEAM BURGLAR ALARM AT A ROCK-BOTTOM PRICE!

Now! Guard lofts, storage areas, loading docks without spending a fortune. Kidde's new Lyne-O-Larm system lets you put up an infra-red "fence"—gives protection at the lowest price. This new photoelectric Kidde system uses transistorized transmitter and receiver to project the invisible beam in a straight line, or—with mirrors—around corners or obstructions. When the beam is broken, alarms sound at any desired locations. Lyne-O-Larm units are UL-approved, simple to service, operate on 110 volts A.C. Built-in standby batteries take over if line power fails. For more information and literature, write Kidde today.

Kidde

Kidde Ultrasonic & Detection Alarms Division, 1124 Brighton Rd., Clifton, N. J.
Walter Kidde & Company, Inc.

▲ For more details circle NED-629 L on enclosed inquiry slip ▲

Diameters from 2″ to 32″. Capacities from 1 quart to 100 gallons.

BUILT-IN RELIABILITY

Whatever shape or shell you require, performance reliability is built into it by Hackney forming methods. The cold drawn process provides a seamless shell with uniform wall thickness from top to bottom. Seamless design eliminates longitudinal welds...gives you strong, lightweight units with smooth, clean surfaces.

Hackney shapes are spherical, cylindrical, conical or tapered. Sizes: 1 qt. to 100 gal.; 2″ to 32″ diameters. Made in steel, nickel, magnesium, ultra-high-strength stainless steels, hot work tool steels, molybdenum and titanium.

For help with your ideas, write to the address below:

Hackney

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 South 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

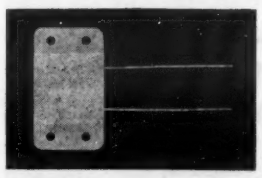
▲ For more details circle NED-630 L on enclosed inquiry slip ▲

OVERSIZE WORK DETECTOR stops machine to prevent damage

By continuously checking the armature current of the cutter-drive motor, this electrical sensing device will stop standard and automatic machine tools upon introduction of an oversize workpiece. One pointer on a meter is set to the maximum allowable load. A second pointer indicates actual load resulting from stock on the blank. If load equals or is greater than preset limit, device automatically interrupts machining cycle. By occasionally glancing at the meter, operator can anticipate and prevent trouble. • **Michigan Tool Co.**, 7171 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-631 L on enclosed inquiry slip ▲

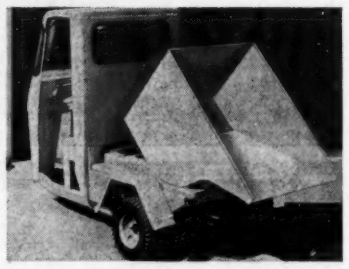
RESISTANCE THERMOMETERS usable range is up to 2000° F



APM Series of Stikon resistance thermometers may be cemented, bolted, or welded to almost any surface. They have a usable range from absolute zero to 2000° F. Units consist of a grid of CP platinum wire encapsulated in pure aluminum oxide and mounted on a thin stainless steel shim. They can be cast or molded in solid material or immersed. The first two transducers in this series have 50 and 100-ohm nominal resistance. The 100-ohm unit can be impregnated for greater moisture resistance for use near room temperature. Response speed is ½ sec or better. • **RdF Corp.**, Hudson, N. H.

▲ For more details circle NED-632 L on enclosed inquiry slip ▲

HOPPER EQUIPPED TRUCK for light hauling operations



An 800-lb payload can be carried in the dump hopper of the Model 780 Truckster, powered by a 7.95-hp four-cycle engine which delivers up to 50 mpg. The 11-cu ft Percival hopper is made of 12-gage cold rolled steel and is welded water tight. It has a release catch and empties by gravity. The 72-in. wheelbase truck has a constant mesh transmission with three forward and one reverse speeds, hydraulic brakes on all three wheels, and an independent parking brake. Over-all length is 102 in., cab height is 68½ in., and cab width is 40 in. The glass fiber and steel cab shown is optional. • **Cushman Motors**, 900 N. 21st St., Lincoln, Nebr.

▲ For more details circle NED-633 L on enclosed inquiry slip ▲

KODAK ANNOUNCES

Kodak

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52″ wide.

1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

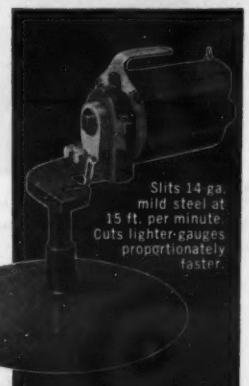
NEW! **Kodagraph**

REPRODUCTION FILMS

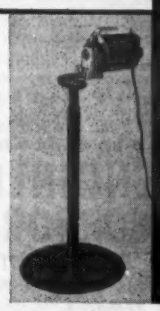
▲ For more details circle NED-634 L on enclosed inquiry slip ▲

BEVERLY *Electric* THROATLESS SHEAR

Cuts Any Shape in Metal Easily, at High Speed



Provides 1725 cutting strokes per minute . . . correct speed to handle cutting, trimming and slitting operations in any metal to shear's capacity. Unique downward-forward shearing action provides faster, cleaner cutting; insures longer blade life. Operator's hands are free to feed and guide work through shear—permits accurate cutting to a line or template. Throatless design allows sheet to be turned in any direction during cut. Motor operates on 110V., 60 cycles, AC.



Complete with base and supporting column to provide most efficient and comfortable working height from floor. Can be used with base only as bench shear.

See your nearby Beverly Distributor for a demonstration or write today for illustrated circular.

BEVERLY SHEAR MFG. CO.
3018 W. 111th Street
Chicago 43, Ill.

▲ For more details circle NED-635 L on enclosed inquiry slip ▲

ANNOUNCING

new speed,
new efficiency in ultrasonic cleaning

ACOUSTICA'S NEW TRANSISTORIZED 20-KC LINE

Ultrasonic cleaning takes on a new dimension with Acoustica's fully transistorized electronic generators for use with "Multipower" transducers and tanks. A completely different operating principle eliminates all tuning, adjustments and meter readings and obtains maximum power from all transducers, even when several are used in a single cleaning tank.

Speed and efficiency are greatly increased, for warm up time is completely eliminated... cleaning can start the instant the switch is turned on! In addition, the new transistorized unit automatically compensates for changes in both load and liquid level. Solid-state circuitry, assures maximum reliability.

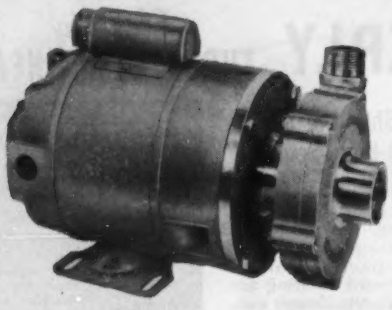
The new fully transistorized generators can be used either in special systems or with Acoustica integral tank-and-transducer combinations. Learn how this new dimension in Ultrasonic Cleaning can cut both production cleaning costs and rejects.

WRITE TODAY FOR COMPLETE OPERATING SPECIFICATIONS.

acoustica

ACOUSTICA ASSOCIATES, INC.
10400 Aviation Blvd., Los Angeles 45, Calif.
600 Old Country Road, Garden City, N.Y.

▲ For more details circle NED-636 L on enclosed inquiry slip ▲



NEW LOW COST!

ALSOP "HY SPEED"
Centrifugal Pumps

Try a new Alsop pedestal-mounted or close-coupled Centrifugal Pump to handle chemicals, slurries, relatively viscous fluids. Ruggedly constructed and designed especially for chemical applications, in 316 stainless steel. Pumps also constructed in standard materials. Mechanical seal or packing gland optional. Performance: up to 160 feet/head. Capacity: up to 130 g.p.m.—for motor ratings from 1/3 h.p. to 3 h.p.

Your pump problem is our challenge. Write today!

ALSOP ENGINEERING CORPORATION
NEW STREET
MILLDALE, CONNECTICUT

▲ For more details circle NED-637 L on enclosed inquiry slip ▲

SAVE MONEY ON CUSTOM MOLDED RUBBER PARTS

. . . Engineered to O.E.M. Requirements

Natural or Synthetic — PARAGON Offers 3 Ways to Save

1 PROTOTYPE SAMPLE DEPARTMENT
Takes guesswork out of molded rubber parts cost in experimental or development programs.

2 SMALL LOT PRODUCTION DEPARTMENT
Rapid delivery, regardless of quantity — no waiting for short production runs.

3 QUANTITY AND CONTRACT ORDERS
High speed production . . . large warehousing facilities . . . guarantees delivery of rubber parts to meet your production requirements.

For fast service on your custom molded rubber parts problems, call Paragon. Send blueprints or specifications for prompt quotation. Write Dept. N. for complete details on Paragon's 3-way money saving program.

PARAGON RUBBER CORP.
Easthampton • Massachusetts

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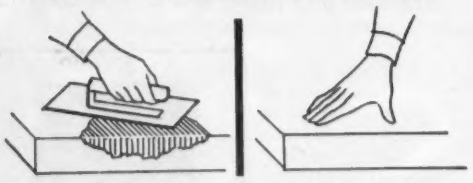
NEW, QUICK, SURE WAY TO PATCH CONCRETE FLOORS



With new Thoropatch, you'll save time and money and get a solid, durable, renewed floor that doesn't look patched. No other cement patch can top these benefits to you:

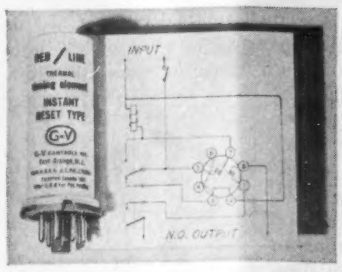
- Dries to natural concrete color.
- No crusting—curing is complete throughout.
- Highest compressive strength in its field.
- Excellent resistance to most industrial acids.
- Smooth, easy, non-stick troweling.
- Tough feather edges.
- Self curing—fast curing.

Don't accept inferior patching materials. If you do the job right the first time, you won't have to do it over. Standard Dry Wall Products Inc. has been a leader in masonry maintenance since 1912. Write for free Thoropatch brochure.

THOROPATCH
Standard Dry Wall Products Inc.
Box X-11, New Eagle, Pennsylvania

▲ For more details circle NED-639 L on enclosed inquiry slip ▲

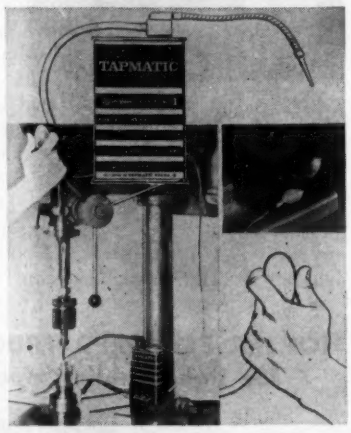
THERMAL TIMING RELAY
for delays from 3/4 to 5 sec



Type DM thermal timing element is a "hot wire" instant-reset type which provides time delays from 3/4 to 5 sec. When combined with a magnetic relay in the circuit shown, the delay interval is instantly reset during or after the delay by interruption of the power supply. Operation is on up to 230 v, and timing elements can be used interchangeably on ac or dc. Time delays are factory set to tolerances of ±10 per cent. Load rating is 3 amp to 250 v ac, 1 amp resistive to 32 v dc. Standard form has octal base, although wire lead units can be supplied. • G-V Controls Inc., Okner Parkway, Livingston, N. J.

▲ For more details circle NED-640 L on enclosed inquiry slip ▲

CUTTING FLUID APPLICATOR
squeeze-bulb actuated, cuts waste



Tapmatic Dual-Action cutting fluids are ejected at the machine work point without waste by the Fluid-Miser applicator. It consists of a hand squeeze-bulb connected by vinyl tubing to an ejector head which screws to any standard 1-in. screw-neck can. Bulb can be hand or foot operated and is attached at the most convenient point for instant fluid ejection. In setup shown, bulb is squeezed at the same time the drill press lever is grasped to feed tap or drill. Kits include a can holder which may be clipped around a tubular machine column, bolted to a table, or held with small magnet. Price is $6.95 with 1 pt of cutting fluid. • Tapmatic Corp., 845 W. 16th St., Costa Mesa, Calif.

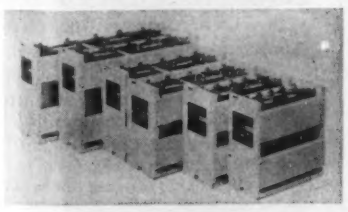
▲ For more details circle NED-641 L on enclosed inquiry slip ▲

SMALL TEMPERATURE RECORDER
covers 0-500 to 0-2500° F ranges

This Temprint miniaturized temperature recorder operates directly from a thermocouple, without signal amplification. The 115-v ac, 5 3/8 x 4 1/8 x 3 5/8-in. instrument covers a minimum span of 0 to 500° F and a maximum span of 0 to 2500° F. Accuracy is ±2 per cent of scale, and standard chart speed is 1 iph. Other speeds are available. The pointer on the moving coil is clamped briefly every 4 sec, allowing pointer to print on the pressure-sensitive chart paper without use of ink. Chart paper is advanced by synchronous motor. • Assembly Products, Inc., Chesterland, Ohio.

▲ For more details circle NED-642 L on enclosed inquiry slip ▲

NICKEL-CADMIUM BATTERIES
8-hr capacities from 10-450 amp-hr



Applications for line of nickel-cadmium batteries include starting, emergency lighting and power systems, switchgear tripping in electric substations, microwave systems stand-by, and emergency communications. Line provides 22 sizes with 8-hr capacities ranging from 10 to 450 amp-hr. Active materials of the plates are contained within pockets formed from perforated, nickel-plated steel strips that are folded and flanged together. The filled strips are fitted into nickel-plated steel frames. Hard rubber rods insulate plates of opposite polarity. Electrolyte is a solution of potassium hydroxide. • Electric Storage Battery Co., Exide Industrial Div., Rising Sun & Adams Avenues, Philadelphia 20, Pa.

▲ For more details circle NED-643 L on enclosed inquiry slip ▲

70 Times Brighter WHITE LIGHT with this New STROBOTAC®

General Radio announces the Completely New Type 1531-A STROBOTAC with an extra-high-intensity, narrow beam, long-throw white light for maximum penetration into machines.

TYPE 1531-A Strobotac: $260.00

FEATURES

DIRECT READING: from 110 to 25,000 rpm in 3 ranges, with individual calibration for each range — useful to 250,000 rpm!

EXCELLENT ACCURACY: ± 1% of dial reading

FLASH DURATION: only 1, 3 or 6 millionths of a second

SIMPLE CALIBRATION: can be recalibrated by 2 screwdriver adjustments and neon panel bulb

EXTERNAL CONTACTOR: Strobotac can be flashed alternately by external mechanical contactor, or by a 6-volt peak-to-peak electrical signal

PORTABLE: weighs only 7 1/8 lbs.; dimensions 6 1/4 x 5 1/2 x 8 3/4 inches; operates from 105-125-volt, 60-cycle line; consumes maximum of 35 watts

Write for the New Strobotac Bulletin

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38 8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA 1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO In CANADA: 99 Floral Parkway, TORONTO 15

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MILLING MACHINES by BARKER
• • • • •
PEDESTAL • BENCH

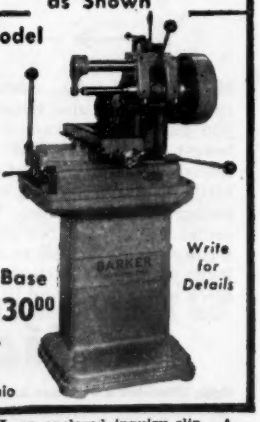
VERSATILE—IN USE EVERYWHERE
For production milling of small parts fast. Efficiently operated by unskilled help.

Screw Feeds Extra

P. M. Model $385.00 as Shown

BARKER Model A-M Milling Machine
A heavier Barker Mill with larger working surfaces for machining bigger parts. Takes # 30MM standard adapters. Will accommodate most standard indexing heads, vises and special accessories.

A.M. Model Wgt. 650 lbs.
$730.00 Less Base



Write for Details

Base $130.00

Dual head models available. Write.

BARKER ENGINEERING CO.
DIVISION
THE F. HOHLFELDER CO.
26470 Lakeland Blvd. • Cleveland 32, Ohio

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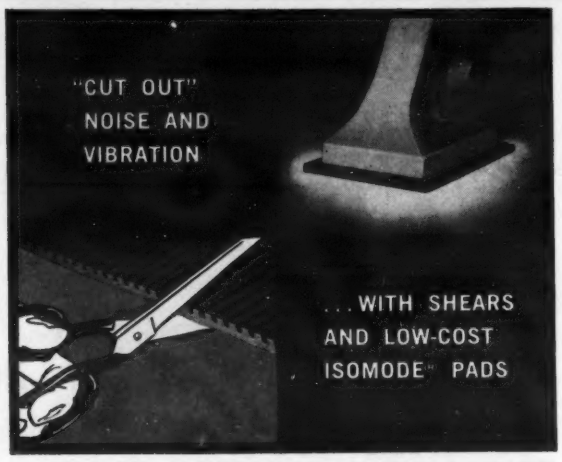
WHY HEAT AIR TO KEEP WORKERS COMFORTABLE?
With Panelbloc overhead gas-fired units you don't! Panelbloc generates and radiates healthful infra-red waves directly to people — it actually "Heats Like The Sun."
Panelbloc warms everything in its range — the floor, workbenches, equipment and tools. There are no fans, no motors, no moving parts. No electrical connections needed, yet thermostatically controlled.
Low in first cost, with economical installation, Panelbloc uses any commercially available gas. Gives years of perfect heating comfort.

Write for Bulletin PC 1-60 M today

PANELBLOC DIVISION
THE BETTCHER MANUFACTURING CORP.
3106 West 61 St., Cleveland, Ohio

▲ For more details circle NED-646 L on enclosed inquiry slip ▲



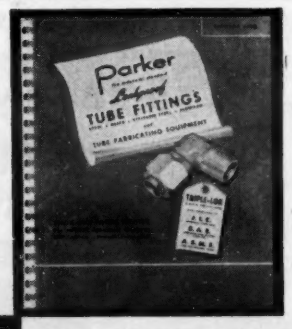
All you need is a large pair of scissors and Isomode Pads—and you effectively cut vibration, plant noise, machine creep and shock on up to 80 tons of equipment.

No bolts, no lags, no holes to drill or fill. Simply cut section from pad to fit machine foot and slip it under. That's it! Cost: less than $1.50 per ton of machinery.

Isomode Pads are completely water and oil-resistant Du Pont Neoprene. Try one—see for yourself. *Send today for special one pad trial offer at discount price.* Ask for Bulletin 418-2.

MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-647 L on enclosed inquiry slip ▲



Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write...

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-648 L on enclosed inquiry slip ▲

down to 1.2 rpm, to meet your "slower-than-motor"
SPEED NEEDS

GEARMOTORS • REDUCERS

Top-quality, job-tested Gearmotors and Speed Reducers... wide range—enclosures, mountings, start-run characteristics... A.G.M.A. Classes I, II, III.

GEARMOTORS, *parallel* shafts... 1—150 hp., a.c.... output speeds as low as 1.2 rpm.

GEARMOTORS, *right-angle drive*... ¼—30 hp., a.c.... output speeds as low as 7.3 rpm.

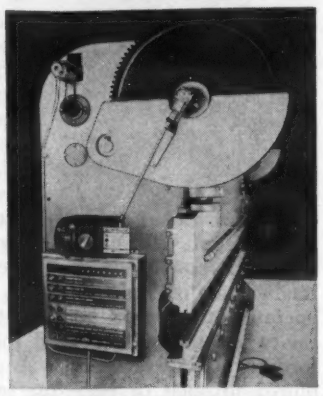
"LINE-O-DRIVE" *coupled units*... 1—75 hp., a.c.... output speeds as low as 1.2 rpm.

Products of *Howell Electric Motors Company, Howell, Mich.* and *The Ohio Electric Mfg. Company, Maple Heights, Ohio*... A Howell subsidiary. A-2558A

HOWELL *electric motors company*
Offices in principal cities... see YELLOW PAGES

▲ For more details circle NED-649 L on enclosed inquiry slip ▲

PRESS BRAKE CONTROL
provides correct bending speed



Pushbutton programming for production and custom bending work is possible with the Autobend press brake control which automatically eliminates whipping. It affords stepless speed control up to 100 per cent and makes possible uniform bending by automatically cycling the brake at the correct bending speed. It is easily installed on any size and model of brake. An electric foot pedal actuates the equipment. Photo shows pushbutton control box, ram positioning switch, and the pedal. • **General Automation Corp.**, Dept. A-9, 40-66 Lawrence St., Flushing 54, N. Y.

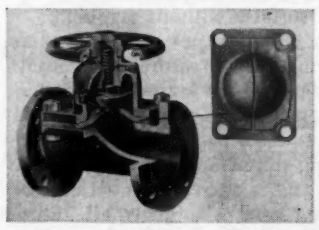
▲ For more details circle NED-650 L on enclosed inquiry slip ▲

LIVE ROLLER CONVEYOR
loads can accumulate without wear

Because the Vari-Torque roller conveyor develops a forward thrust proportional to the weight of the load, loads can be stopped at any point without stopping the conveyor, even on curves. This permits loads to accumulate or assemble for long periods without wear on the rollers. These chain-driven live-roller conveyors are offered in a range of sizes and capacities. Loads move forward the instant they are released. • **Harry J. Ferguson Co.**, West Avenue, Jenkintown, Pa.

▲ For more details circle NED-651 L on enclosed inquiry slip ▲

DIAPHRAGM VALVES
have Teflon-faced diaphragms



Chemical resistance and wear life of Teflon-faced diaphragms now used in 4 and 6-in., as well as previously available ½ to 3-in. sizes of Hills-McCanna diaphragm valves are reportedly equivalent to that of solid Teflon diaphragms. Price of the one piece, reinforced elastomeric diaphragms is 25 to 50 per cent lower, depending upon size. Backing resilience insures tight seating, even against solid particles, and it will absorb shock without rupture. Diaphragms may be used from −10 to 240° F continuously, and for short periods to 280° F, with pressures to 150 psi. Sulfuric acid, concentrated nitric and hydrochloric acids, organic solvents, chlorinated hydrocarbons, esters, ketones, and ethers are typical liquids which may be handled. • **Hills-McCanna Co.**, 4600 W. Touhy Ave., Chicago 46, Ill.

▲ For more details circle NED-652 L on enclosed inquiry slip ▲

Job-proved answers to your
EXPLOSION PROOF
motor problems

America's largest maker of explosion-proof gasoline motors, (more than all other makes combined) offers you a wide selection of job-tested general- and special-purpose explosion-proof U/L approved motors for Class I and Class II locations. A-2557A

Products of *Howell Electric Motors Company, Howell, Mich.*, and *The Leland Ohio Electric Company, Dayton, Ohio*... A Howell subsidiary.

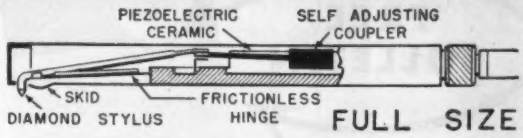
TOPS FOR JOBS LIKE THESE:

Vapors, U/L Class I	Dusts, U/L Class II
• Hydrogen	• Metals
• Ethyl-ether	• Carbon
• Butane	• Grain

HOWELL *electric motors company*
Offices in principal cities... see YELLOW PAGES

▲ For more details circle NED-653 L on enclosed inquiry slip ▲

SURFACE FINISH MEASUREMENT



PICKUP DESIGN

The heart of any surface finish measurement instrument is the pickup. This component determines the performance and versatility of the gage. The above design illustrates the most advanced pickup available. In many respects similar to a high fidelity phonograph cartridge, it employs a piezo-electric ceramic element, which is unaffected by temperature, humidity and other environmental factors. The flexing of this ceramic converts the variations in surface finish height into an electrical signal.

The self adjusting viscous coupling assures operation from a true neutral point and prevents excessive stylus pressure without critical leveling of the pickup. This feature also reduces the number of skids required. The inherent simplicity of the pickup design reduces maintenance as well as the initial cost of the equipment. The small size of the basic pickup eliminates the need for many special types or adapters. Other pickups are available which permit measurements on very small or narrow areas, flanges, thread flanks, gear teeth, small internal diameters and "O" ring grooves.

All other Roughness Meter items, amplifier, mechanical trace and skidless trace, make use of similar advanced designs.

Write for information or a demonstration.

Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

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Cut space, weight, up to **1/2** *with*
FLAT TYPE
motors

Do you have motor space and (or) weight problems? If so, we have just the motor answer you need.

Howell flat-type motors are as much as 48% shorter and 50% lighter-weight than conventional motors of the same ratings. Ideal for such applications as punch presses, metal shears, milling machines, drill presses, many others where space, weight are at premium. A product of *The Leland Ohio Electric Company, Dayton, Ohio*... A Howell subsidiary. A-2555A

HOWELL *electric motors company*
Offices in principal cities... see YELLOW PAGES

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• *third of a series*

WHAT YOUR HOWELL MAN
represents and has to offer

More about the "New Howell"... another report to our friends throughout the nation's industrial community.

Our *corporate* and *product* "Images" have changed vastly in the past few years.

Howell now also offers you the combined broad motor lines of: *The Ohio Electric Mfg. Company; Kingston-Conley, Inc.; Leland Ohio Electric Company.*

Each is a leader in certain important areas. Each is known for certain outstanding products. Each has built on ideas, initiative, integrity.

Consolidation is now completed. *People, Plants, Products* of four formerly separate enterprises are now ONE COMPANY... dedicated to continued high standards of service to American Industry.

A few words about our:

experience

Howell began making a.c. motors in 1915. We have grown up with the electric motor industry... mastered the skills of fine motor building with more than 40,000 motor designs... contributed to the nurture, acceptance, refinement and growth of thousands of motor-driven machines and appliances. A-2552A

HOWELL *electric motors company*
SUBSIDIARIES:
OHIO ELECTRIC MFG. COMPANY • LELAND OHIO ELECTRIC COMPANY • KINGSTON-CONLEY, INC.

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FREE BULLETIN

Learn How Flexible Heaters Can Help You!

Send for this new literature explaining how a **flexible** heat source of up to 450°F. is provided by Watlow's Flexible Silicone Rubber Heaters. Amazingly versatile, these new heaters are available in any plane shape or special configuration, are easily applied in a variety of ways to practically any type of surface. Bulletin contains complete data covering construction, specifications, and performance ... shows how **flexible** heat can answer many of your design problems.

Write for Bulletin C102

WATLOW
ELECTRIC MFG. CO.
1374 Ferguson Avenue
St. Louis 14, Mo.

Cartridge • Strip • Immersion • Tubular Cylinderical Electrical Heating Units

6017

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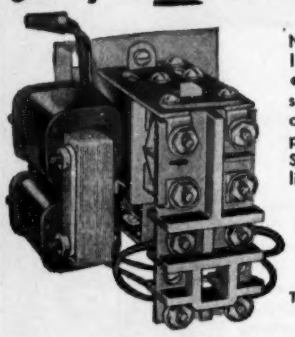
WARRICK
Floatless, Electrode Type
LIQUID LEVEL CONTROLS

give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:

- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

CHARLES F. WARRICK CO.
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

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A CORROSION-PROOF THERMOSETTING COMPOUND FOR LINING

Chemical Storage Tanks • Processing Tanks
Pickling & Plating Tanks • Pits & Foundations

This new lining material resists the effects of alkalies, acids and solvents. COROLINE can be easily applied with trowel or brush in thicknesses ranging from 1/16" to 3/16". COROLINE can be applied by the customer or by Ceilcote personnel in the field or factory.

Write today for the COROLINE TECHNICAL BULLETIN

COROLINE CEILCOTE

THE CEILCOTE CO., Inc.
4638 Ridge Road • Cleveland 9, Ohio

•Birmingham, Alabama • Buffalo, New York • •Chicago, Illinois • •Cleveland, Ohio • •Detroit, Michigan • Evansville, Indiana • Galveston, Texas • Kansas City, Missouri • Los Angeles, Calif. • San Francisco, California • Seattle, Washington • Springfield, Massachusetts •Warehousing

3918-CC

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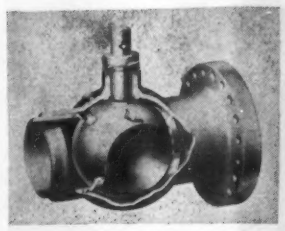
BALL VALVE
rotating seats in 2 to 36-in. sizes



Compact Cameron ball valve can be installed in any position for electric, pneumatic, or hydraulic operation. It is suited for various services, including highly abrasive and corrosive fluids. Two-seat construction seals both upstream and downstream, making it possible to block the line in both directions for bleeding off the valve body. Each time the valve is operated, the spaces between the seats and the body cavity are flushed out, and the seat is partly rotated for continuous reseating. A one-quarter turn is required to open or close the forged valve, made in 2 to 36-in. sizes for 150 to 600-psi ASA classes and 2 to 6 in. for API 1000 to 5000-psi service. • Cameron Iron Works, Inc., Box 1212, Houston, Tex.

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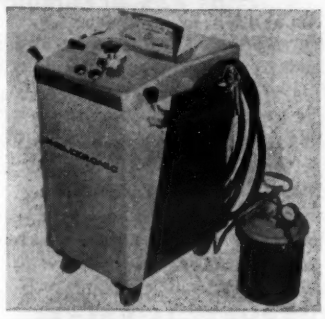
PAINT SPRAY PROCESS
employs a vaporized hydrocarbon to atomize and apply the paint



Usable with practically all types of coatings, Chemtronic paint spray process employs Chemsine hydrocarbon compound which is heated and vaporized into a dry gas 2½ times heavier than air and used to atomize and apply the paint. Very thin materials can be atomized into fine particles at low pressure to give a uniform coating. High viscosity paints can be sprayed in one pass to 4-mil dry film thickness on vertical surfaces without sagging.

Chemsine atomizing agent does not mix with materials when sprayed, being wholly saturated in itself. It is excellent for metallic paints due to fine atomization achieved, and it assures uniformity with wrinkle and hammer finishes. In most cases paints can be applied as received without adding thinners. Spray equipment for the process is flexible and is offered with a range of fluid nozzles, air caps, and needles to cover all industrial requirements. • John J. Fannon Products Co., 3000 E. Woodbridge Ave., Detroit 7, Mich.

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Prototype Making Facilities

Michigan Tool Co., Enterprise Div.—Existing and newly acquired facilities for making precision parts, prototype gears and splines, experimental parts, lead and feed screws, fixtures, and cold heading dies are listed in 16-page Bulletin 100. Company also has equipment for precision grinding, intricate profiling, gear grinding, and shaving to AGMA standards.

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SAVE ON
SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

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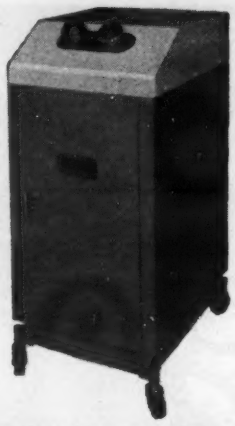
PNEUMATIC

SEMI AUTOMATIC AIR CLEANER



Air cleans new glassware at 20 to 50 per minute speeds • Handles several shapes and bottle sizes without change of parts

PNEUMATIC SCALE CORPORATION, LTD., 71 Newport Avenue, Quincy 71, Mass. *Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company, Los Angeles, San Francisco and Seattle; Rockwell Pneumatic Scale Ltd., London N. W. 2, England; O. R. M. A. Paris, France. Subsidiaries: Delamere & Williams Co., Ltd., Toronto; Carbert Manufacturing Co., Inc., Cambridge, Mass.*

PNEUMATIC *Packaging and Bottling Equipment*

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How the "aisle-designed" Tennant "80" Sweeper slashes your sweeping costs

HEAVY-DUTY "80" sweeps an ultra-clean 53-inch path

Sweeps on-the-run . . . drives like a car. Starts, stops, reverses instantly with heel-and-toe control. Picks up *all* types of dirt, dust and litter with no delays for adjustment. Operator simply presses lever to dump loads up to 800 lbs. "Aisle-designed" to sweep 4½ to 8½ ft. aisles in one round trip.

Cuts sweeping costs. Does as much work as up to 15 men with brooms . . . *while doing a far better job.* Powerful brush-and-vacuum system provides most nearly "dust-free" sweeping ever developed. Gasoline, LP-gas, or battery-electric.

WRITE TODAY for illustrated bulletins, photos, performance data.

OUR 90th YEAR TENNANT

Industry's Most Widely Used
POWER SWEEPERS

G. H. TENNANT COMPANY • 715M N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

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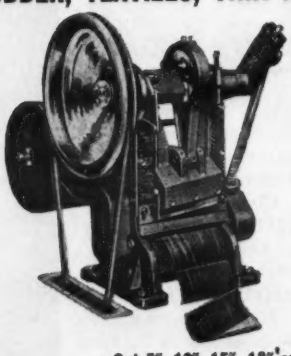
AUTOGIL

Cut PLASTICS, PAPER, FELT, RUBBER, TEXTILES, THIN METALS



The Power Packaged AUTOMATIC GUILLOTINE

- Cut 5", 12", 15", 18" or 24" widths
- Cut 0 to 96" lengths (infinitely variable)
- Cut up to 3/16" thicknesses
- 120 cuts per minute
- Three Sizes – Two Styles – One just right for your cutting job

Ask For Autogil Literature

HOBBS Manufacturing Company
EST. 1883
41-K Salisbury St., Worcester 5, Mass.

Branch Offices: Irvington, N. J., Chicago, Cleveland, Los Angeles, Louisville, Greenville, S. C., Toronto, Can.

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HOW TO DO THE DIFFICULT

Have happier workers and a happier boss both achieved by use of FAIRBANKS COST-CUTTER TRUCKS!

Just think of trucks as tools. Then you instantly recognize that the right trucks must make lighter work of materials handling. Your men with the right tool—the right truck—do more with less effort and with *greater safety*. You realize surprisingly large time and cost savings.

YOURS ON REQUEST: Big colorful catalog, #T-54, describes most complete line of trucks and applications. Write for your free copy of this valuable catalog today.

THE FAIRBANKS COMPANY

Executive Office—393 Lafayette St., N. Y. 3, N. Y. • Branches—520 Atlantic Ave., Boston 10, Mass. • 393 Lafayette St., N. Y. 3, N. Y. • 15 Stanwix St., Pittsburgh 22, Pa. • 202 Division St., Rome, Ga. • Factories—Rome, Georgia and Binghamton, N. Y.

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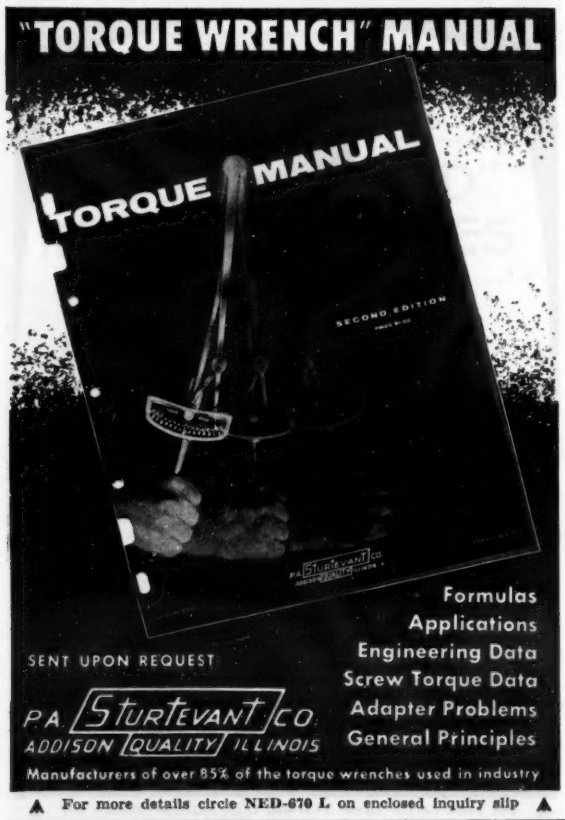
"TORQUE WRENCH" MANUAL



Formulas
Applications
Engineering Data
Screw Torque Data
Adapter Problems
General Principles

SENT UPON REQUEST

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

Manufacturers of over 85% of the torque wrenches used in industry

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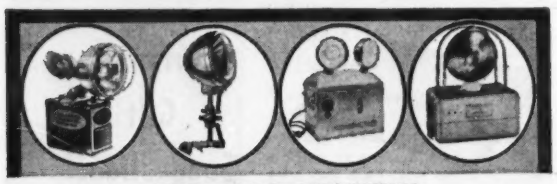
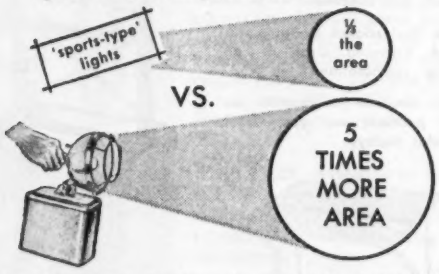


THERE IS NO SUBSTITUTE

FOR POWER . . .

Insist on the lights with Power to spare . . . when you need it most!



"Portalites" cover *five times* the area of 'sports-type' lights with the same or greater intensity! Available with battery-pack specifically designed for emergency lighting . . . gives from 150% to 400% longer light at less cost! Also rechargeable battery types.

COMPLETE CATALOG ON REQUEST

CARPENTER MFG. COMPANY

969 Bradley Street, Somerville 45, Mass. Telephone MOnument 6-4300

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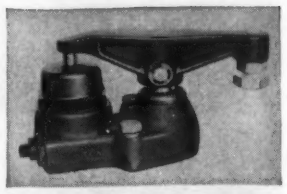
HYDRAULIC CLAMPS
automatic swing and retracting types



Clamping force exerted by this automatic swing clamp (illustrated) is 900 lb at a line pressure of 2000 psi. At rest, its arm is 90 degrees away from clamping position. When line pressure is applied, it swings over the work, then pivots down to clamp with force supplied by an integral hydraulic cylinder. Release of pressure reverses the operation. Distance from center of pivot to center of clamping tip is 2½ in. Clamping tip adjustment is ¼ in. Also available is a universal retracting clamp with a 600-lb force rating which is supplied with a stub to which can be welded clamping tips to suit the application. Mounting can be in any position. • **Newton Hydraulic Tooling Co.**, Auburn, Mass.

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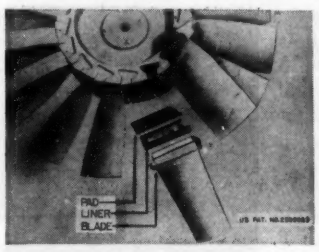
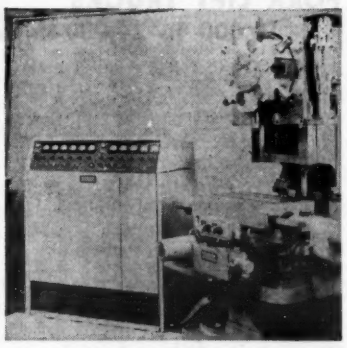
AXIAL FLOW BLOWERS
installed in existing ducts



Blade retention system used in Bensair axial flow blowers allows each blade to rotate about its own hub axis to eliminate bending and fatigue stresses. The blades are individually mounted on rubber pads for easy maintenance. Blowers are installed on in-line connections with existing ductwork in heating, ventilating, and air conditioning systems. Mounting on wall or ceiling is possible. A range of capacities is available. • **Benson Mfg. Co.**, Commercial Blower Div., 1811 Agnes Ave., Kansas City 27, Mo.

▲ For more details circle NED-673 L on enclosed inquiry slip ▲

NUMERICAL POSITIONING SYSTEM
for point-to-point tool location on milling and drilling machines



Accurate to 0.0001 in., the MPI 801 numerically controlled point-to-point positioning system for machine tools employs a transistorized electronic console. Movements of 0.0001 in. are realized without oscillation. System includes a MPI 850 positioning table on a drilling or milling machine and utilizes punched paper tape from a Flexowriter to make the tool repeat its task automatically and without deviation.

Rapid positioning from either direction is conducted at up to 200 ipm. System features modular plug-in construction, self-indicating checks, both tape program input and manual input, and direct visual display of actual positions. It is expandable into a complete contour system by adding an interpolator, and it can be used for any positioning application. • **Micro-Path Inc.**, 10321 Anza Ave., Los Angeles 45, Calif.

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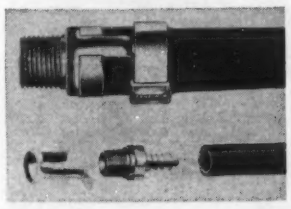
HOSE COUPLINGS
five sizes fit any size or thickness



Piggyback Tri-Lokt hose nipple may be used for double and single braid hydraulic hose, steam hose, and all other types requiring a positive lock to the nipple. Reusable type unit has a stem which minimizes abrasion within the hose. It locks in three places, in addition to the usual clamp and nipple methods. Assembly consists of one hose nipple and one yoke which is locked by two Band-It Jr. stainless steel clamps. Nipple is held permanently in place by the yoke tie-ends and at the third locking point by anchoring force of the yoke on the nipple. Sizes of ¼, ¾, ½, ¾, and 1-in. ID fit any hose wall thickness. Only one size is required for each hose ID regardless of hose OD. • **Band-It Co.**, 4777 Dahlia St., Denver 16, Colo.

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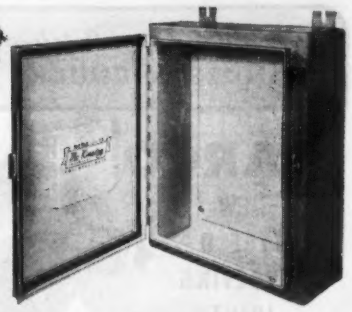
DUST-TITE

MOISTURE-PROOF

OIL TITE



McKINSTRY NEMA Type 12 PANEL ENCLOSURES

McKINSTRY Panel Enclosures built to NEMA Type 12 specifications give your electrical controls, terminals and instruments complete protection against oil, water coolants and extra protection in heavy dust-laden atmosphere. Before you buy, look into the complete line of McKINSTRY NEMA Type 12 Enclosures for quality materials and workmanship at reasonable prices.

Write: Dept. 20-P for new illustrated catalog and price list on complete line of McKINSTRY Enclosures and Fittings.

MMW **McKINSTRY METAL WORKS, INC.**

285 McKinstry Ave. • Chicopee, Massachusetts

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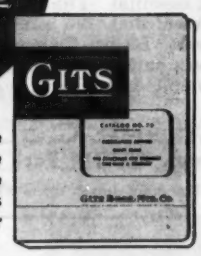
523 GITS OILERS AND GAUGES READY TO SHIP

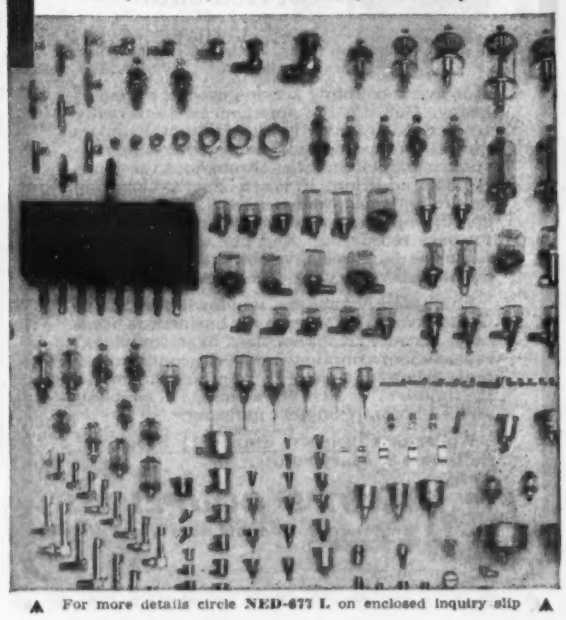


Largest selection available anywhere. You save time and money, because the one you want is always right in stock. Send for complete Catalog.

GITS BROS. MFG. CO.

1833 S. Kilbourn Ave. Chicago 23, Ill.

Specialists in Lubricating Devices and Shaft Seals for Almost Half-A-Century



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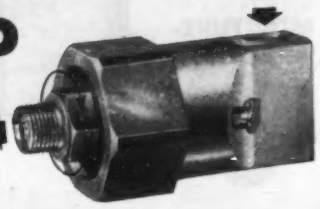
For High Speed Rotating Connections on
SPINDLES • CHUCKS • CLUTCHES

BARCO
NEW
TYPE D
REVOLVING
JOINT



UP TO 10,000 RPM!

Use Barco's new TYPE D Revolving Joints wherever you need high speed, low torque, leakproof rotary connections for air, hydraulic, or coolant lines on clutches, machine tools and other equipment:

- **LIGHT RUNNING!** Ball bearing design for low torque and minimum wear.
- **LEAKPROOF!** Thanks to Barco's static O-ring seal.
- **PRECISION-BUILT!** All parts machined to close tolerances. Parts interchangeable and easily renewable.
- **COMPACT, DURABLE!** Easy to install where space is limited. Overall length, 3 13/16". Built for rugged service.
- **WIDE SPEED RANGE!** Up to 10,000 RPM. For pressures to 300 psi (air) or 3000 psi (hydraulic). Economical TYPE E available for up to 2,500 RPM. SEND FOR CATALOG SHEET 308.

BARCO MANUFACTURING COMPANY
530M Hough Street • Barrington, Illinois

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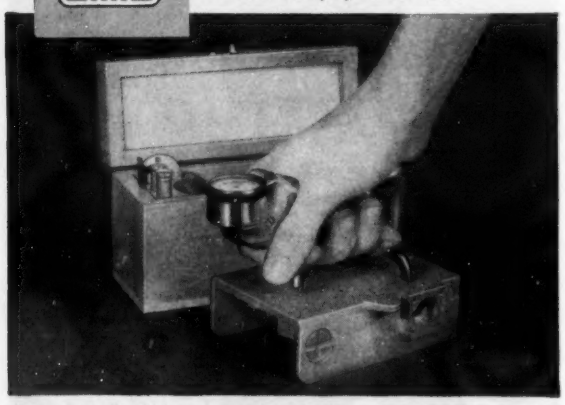
THE MARK OF QUALITY
BARBER COLMAN

Impressor
PORTABLE HARDNESS TESTER
- Rapid testing — no setup
- Easy to carry and use
- Needs only space for hand



A portable hardness tester for aluminum alloys, soft metals, and plastics, the Barber-Colman Impressor is designed for fabricated parts and raw stock testing. Operating experience is not essential. The reading is instantly indicated on the convenient dial. No waiting, preloading, or separate measurements. Barber-Colman engineers will gladly recommend the most suitable model for your application. Write today for complete details.

BARBER-COLMAN COMPANY
Dept. K, 1214 Rock Street, Rockford, Illinois

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WHEN YOU NEED HELP IN A HURRY-

Koppers coupling service cuts costly down-time

Not every coupling service need is an emergency. But it's the emergencies that really test a good organization. That's why Koppers maintains experienced field engineers and outstanding stock facilities throughout the country. In addition, if it's a Fast's Coupling you're replacing, we have a serial number and specific application history for every Fast's for easy reordering. And our modern manufacturing facilities have the extra capacity to lick an emergency for special requirements.

Example: A modern windowless bank in Georgia was able to open for business as usual only because Koppers flew in a completed replacement coupling for its air conditioning unit. Elapsed time . . . request phoned to Baltimore after 10 in the evening . . . coupling arrived before 7:30 next morning.

KOPPERS COMPANY, INC., 711 Scott St., Baltimore 3, Maryland.

KOPPERS **FAST'S COUPLINGS**
Engineered Products Sold with Service

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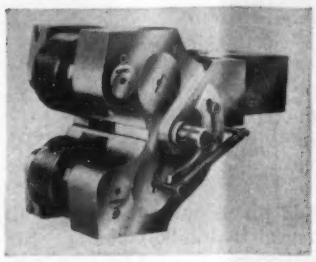
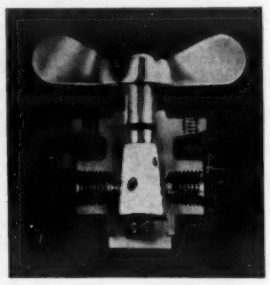
THREAD ROLLING ATTACHMENT
has 1½ to 3¼-in. diametrical range



Lanroll No. 28 thread rolling attachment is applicable to turret and tracer lathes and to the larger automatic chuckers and bar automatics. Lathes using it must be equipped with power cross feed. Attachment rolls a diametrical range from 1½ to 3¼ in. Rolling of threads up to a Class 4 fit is possible. Use of proper thread rolls and auxiliary equipment allow, left or right hand, straight or taper threads to be produced. Requests for application data should include a workpiece drawing or sample, and material, thread, and machine specifications. • **Landis Machine Co.**, Waynesboro, Pa.

▲ For more details circle NED-681 L on enclosed inquiry slip ▲

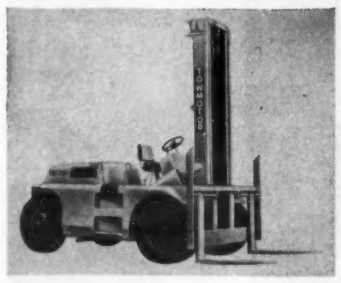
PLUG VALVE
for 250 psi air, oil, water service



Teflon plug seats against a heavy-duty forged brass body lapped for precise fit in this plug valve for air, oil, water, and gas service. Valve is offered in IPS sizes ⅛, ¼, ⅜, and ½ in. with 2, 3, 4, or 5-way drillings and is rated to 250 psi at temperatures from −320 to 500° F. In operation, a thin film of Teflon is transferred from plug to mating surface, effecting a Teflon-against-Teflon sliding action. Units resist nearly all chemicals, gases, and solvents, including strong caustics, sulfuric and hydrofluoric acids, aqua regia, and aliphatic and aromatic hydrocarbon solvents and ethers up to their boiling points. Stainless steel, aluminum, and Monel bodies are also available. • **Conant Bros. Co.**, 427 Riverside Ave., Medford, Mass.

▲ For more details circle NED-682 L on enclosed inquiry slip ▲

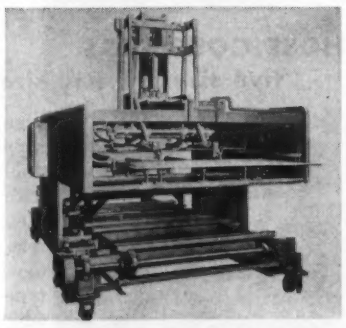
FORK LIFT TRUCKS
10,000 to 24,000-lb capacities



Eight models in the Monarch series of heavy duty fork lift trucks feature low profiles, envelope type bodies, and maneuverability and handling ease in rough terrain. Both gasoline and diesel powered models are available in wheelbases from 86 to 120 in. with capacities from 10,000 to 24,000 lb. Most models have cool-running tandem hydraulic pumps for fast lift. Forks are adjustable from 2 to 66 in. for flexibility in load handling. Power steering and comfortable seats and backrests are standard. • **Towmotor Corp.**, 1226 E. 152nd St., Cleveland 10, Ohio.

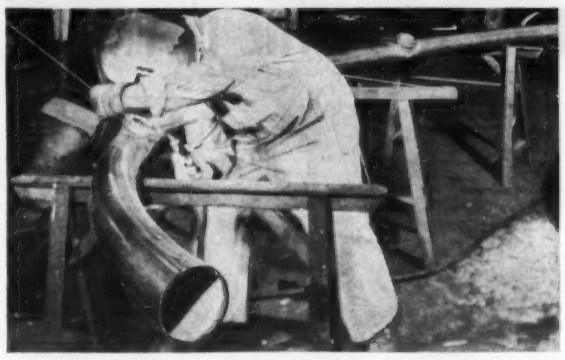
▲ For more details circle NED-683 L on enclosed inquiry slip ▲

SHEET DESTACKER & FEEDER
vacuum cup lift unit is automatic



Lifter mechanism of this automatic vacuum cup destacker and sheet feeder deposits one sheet at a time on the feed station, and at the same time pushes the previously fed sheet into a punch press, shear, roller leveler, roller applicator, or other machine. It has a double sheet detecting device and a stock index conveyor which will hold two or more stacks of blank sheets. An empty-pallet removal station can be used when this method of stock supply is used. The self-contained unit does not require a pit or foundation, and includes both automatic cycling and manual inching controls, as well as a sheet separator. Various sizes and arrangements are built to specification. • **Die & Automation, Inc.**, 5353 Dixie Highway, Hamilton, Ohio.

▲ For more details circle NED-684 L on enclosed inquiry slip ▲



ELECTRUNITE Stainless Steel Tubing
IS EASY TO FABRICATE

Bend, flange, weld, easy-to-fabricate Republic ELECTRUNITE® Stainless Steel Tubing. Complete range of sizes, gages, wall thickness. Broad distributor stocks. Large inventories of mill stocks. Top reputation for quality. Technical and metallurgical assistance. Price and delivery quotations within 24-hours. Call your Republic representative, or write.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio

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SEPARATOR
does a smooth job of
SEPARATING and EJECTING
water, oil, scale, and rust from
COMPRESSED AIR LINES
YOU SHOULD HAVE FULL INFORMATION
Write now for FREE Data Sheet No. 2569
JAMCO

JAS. A. MURPHY & CO., INC.
1419 EAST HIGH STREET, HAMILTON, OHIO

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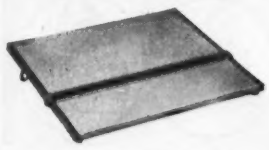
MAYLINE



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Christmas Gift Suggestions!

For those personal gifts at Christmastime may we suggest Mayline drafting equipment and supplies.

The Professional Drawing Kit and Carrying Case is an ideal combination.

For complete information on all products see your local dealer today!

GEM PEDESTAL TABLE

7803-C MASTER

Mayline Co., Inc.
617 No. Commerce St.
Sheboygan, Wisconsin

MAYLINE MAYLINE MAYLINE

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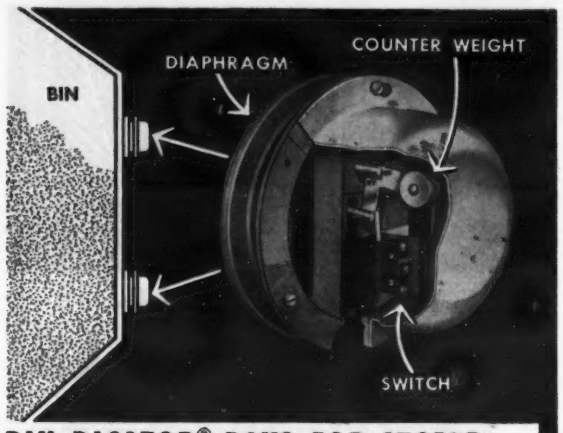

BIN-DICATOR® PAYS FOR ITSELF FIRST TIME IT PREVENTS BIN OVERFLOW, CONVEYOR CLOG, ELEVATOR CHOKE-UP, MACHINERY DAMAGE, REPAIR SHUT-DOWN

If you handle bulk material you probably need Bin-Dicators. The nominal cost of this protection and automatic control makes it the lowest-cost modernization you can buy. Available with Explosion-Proof Switch.

THE BIN-DICATOR CO. 13946-A Kercheval • Detroit 15, Mich.

Write for free copy of catalog BD-15 or call VAlley 2-6952

WE SELL DIRECT • PHONE ORDERS COLLECT

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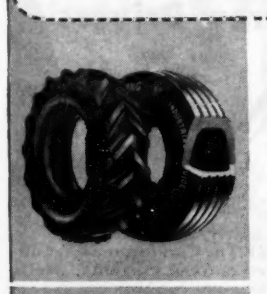
OHIO RUBBER

"CUSTOMEERED®" INDUSTRIAL TIRES

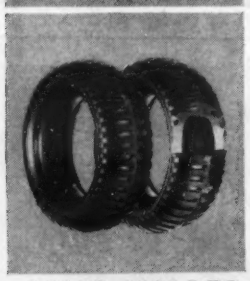


SEMI-PNEUMATIC TRACTOR AND STANDARD TREAD

Air King Industrial Tires, with standard or traction tread, feature full-cushion load support, shock-absorbing protection, easy rolling under load, and high resistance to wear—are designed for trouble-free, long-life operation.

SOLID TIRES, STANDARD TREAD

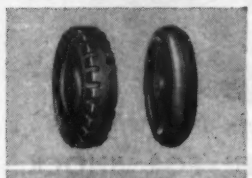
Designed for snug rim fit and easy mounting—offer all the top features of the AIR KING Semi-Pneumatic Industrial Tires, plus the strength and durability of a solid tire for heavier loading.



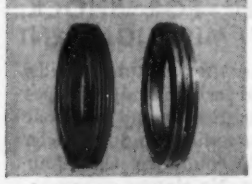
"RIDE KING" SPECIAL APPLICATIONS

Specially engineered for applications such as riding-type mowers, sulkies, light tractors and other similar equipment. Wider tread provides flotation; delivers traction without gouging.

SOLID MOLDED WHEELS AND TIRES



Solid Wheels—Available at low cost from standard mold equipment for light applications. High or medium quality caster wheels engineered to meet service needs of heavier applications and many industrial requirements.



Solid Tires—Available as standard items for many wheelgoods applications, or can be engineered to meet specialized service requirements.

G-260

FOR COMPLETE INFORMATION on ORCO "CUSTOMEERED" Industrial Tires write today for your free copy of ORCO BULLETIN 714.

West Coast Factory and Office—Long Beach, California

ORCO THE OHIO RUBBER COMPANY WILLOUGHBY, OHIO

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INVENTORY CALCULATOR
sets order points for stock items

Minimum stock level at which a replenishing order must be issued for each item in stock is indicated without difficult computations by the Order Point Calculator. Both the basic inventory minimum and an adequate safety allowance are figured automatically and shown clearly. It is made of laminated plastic so that printing will not fade or scratch off. The 6-in. diameter unit indicates usage from 1 to 10,000 units, lead times from 1 week to over 2 yr, and order points from 1 to over 100,000 units. Usable in any business, it is priced at $6. • **Van D. Mark**, Box 44, St. Clair, Mich.

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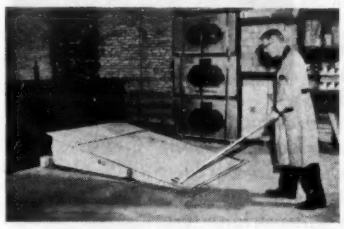
LOADING RAMP
supports 20,000 lb in any direction



Trucks with beds up to 16 in. above or 10 in. below dock level are served by the Extendo - Lip self-contained loading ramp for new or existing dock. It is installed in prepared dock pit less than 2 ft deep in less than 2 hr. The lip moves out from 1 to 13 in. to bridge the gap between truck and dock. Insertion of an activating arm in a key slot adjusts the ramp to the desired position. Removal of the arm locks the ramp in position. The ramp will support 20,000 lb in any direction. Built of welded steel and reinforced throughout, it measures from 6 ft 11 in. to 8 ft long and 5 ft 4 in. wide. • **American Dockbridge, Inc.**, 235 W. Oklahoma Ave., Milwaukee 7, Wis.

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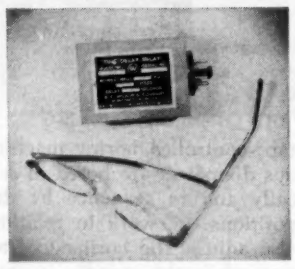
TIME DELAY RELAY
for automatic, semiautomatic uses



Single-pole and double-pole double-throw models with fixed or adjustable time delays are available in the Model 591 time delay relay, a plug-in electronic unit for automatic and semiautomatic applications. Remote time adjustment is optional. Equipped with simplified instant recycle, the unit uses cold cathode tubes and requires no warm-up. Any number of the 2 x 2½ x 3⅛-in. timers can be connected for programming. It can be used to operate solenoid valves in sequence, control motor startups, delay high voltage, control machine tool sequences, or control automatic filling. Quantity price is $16. • **G. C. Wilson & Co.**, 1915 Eighth Ave., Huntington, W. Va.

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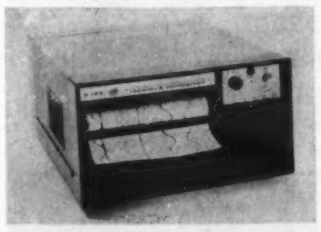
PORTABLE OSCILLOGRAPH
prints records at any of five speeds and has 200-ft record capacity



Loaded and placed in operation in less than 10 sec, the Type 5-124 portable industrial oscillograph records by the print-out process. It holds 200 ft of 7-in. recording paper and has a pushbutton controlled transmission with record speeds of 0.25, 1, 4, 16, and 64 ips. Writing speeds up to 50,000 ips are attainable. Timing is accomplished by either a flash tube or timing galvanometer, driven by an integral timing oscillator or an external signal.

An unexposed-footage indicator, high intensity mercury vapor light source and intensity control, and choice of 6, 12, or 18-channel magnetic block are other features of the 15 x 13 x 7⅜-in. unit. Front access for loading, operating, and data viewing suits it for rack mounting. • **Consolidated Electrodynamics Corp.**, Electro Mechanical Instrument Div., 360 Sierra Madre Villa, Pasadena, Calif.

▲ For more details circle **NED-693 L** on enclosed inquiry slip ▲

up to 60% shorter than standard motors

NEW Louis Allis Pancake Motor

The new Louis Allis Pancake Motor is up to 60% shorter than other motors of its type. Actually, it's a conventionally-built—and consequently trouble-free—radial air-gap motor that's been compressed to less than half the length of many flange-mounted motors. The Pancake Motor couples space-saving design with top quality . . . maintains NEMA service factor.

The Pancake is ideal for machine tools, roof ventilators — any application where space is critical. Features include a rigid cast iron frame, pre-lubricated oversize bearings, and an insulating varnish that provides the highest degree of moisture, acid, and alkali resistance. Sizes from 1 to 15 hp, open or enclosed. Write The Louis Allis Company, 436 East Stewart Street, Milwaukee 1, Wisconsin.

SM-103

LOUIS ALLIS

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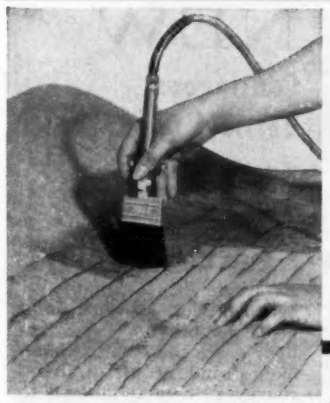

NEW

BOSTIK® ADHESIVE APPLICATOR

- **Speeds hand cementing**
- **Finger tip control**
- **Clean, cuts waste and hazard, speeds production.**

Tank under pressure holds adhesive and feeds through 6′ hose to hand brush with finger tip control. Cuts waste and effects big savings in adhesives, increases production 25% and more. Does cleaner, neater job. Works on 20 lb. air. One tank can feed 3 brushes. Complete with one brush $109. Extra brush and hose assemblies available. For complete details write:

Bostik® ADHESIVES

BB CHEMICAL CO., 784 MEMORIAL DRIVE, CAMBRIDGE, MASS.

U80-51

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5 Reasons Why Veelos Adjustable V-Belts Are Better for Your Drives

1. *Balanced Construction* assures faster, cleaner work. Each link and stud is identical in size and weight; no spots of varying density.
2. *Less Vibration*—up to 90% less—in machines with Veelos-equipped drives. Wear on bearings and machines is greatly reduced.
3. *Cooler Running* assures long life. Constant circulation of air around and between Veelos links prevents internal heat build-up.
4. *Greater Flexibility* reduces slippage. Each link moves around sheave independently, maintains full contact; permits shorter centers, smaller sheaves.
5. *Simple Installation* "knocks out" down-time. Saves up to 50% installation time on outboard bearing drives. No resetting, tilting or moving motors with adjustable Veelos.

Write for free Veelos Data Book

NEW!

VEELOS TOOL

Provides a fast, safe way to couple and uncouple link v-belt. Every stockroom attendant needs one . . . every maintenance mechanic needs one. Order from your Veelos distributor or write for illustrated bulletin.

VEELOS THE BALANCED LINK V-BELT

MANHEIM Manufacturing & Belting Company Manheim 4, Pa.

Veelos is known as Veelink outside U.S.A.

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WEATHERING is no problem for parts made of SILASTIC

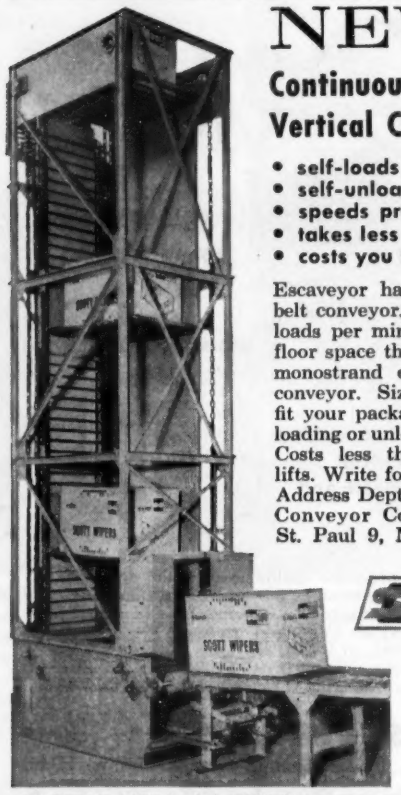
SILASTIC® silicone rubber parts resist weathering and storage. Won't crack, check or lose resiliency even after:

- years of outdoor service
- lengthy storage on shelves, or
- long-time aging in stored equipment

For FULL INFORMATION on all of the outstanding properties of this unique Dow Corning silicone rubber, write Dept. 5811.

first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

For more details circle NED-697 L on enclosed inquiry slip



NEW

Continuous Vertical Conveyor

- self-loads
- self-unloads
- speeds production
- takes less space
- costs you less

Escaveyor has continuity of belt conveyor. Moves 8 to 10 loads per minute. Takes less floor space than conventional monostrand or straight-lift conveyor. Size is tailored to fit your package. No manual loading or unloading required. Costs less than most other lifts. Write for free brochure. Address Dept. K-11, Standard Conveyor Company, North St. Paul 9, Minnesota.

STANDARD CONVEYOR *Sales and Service in Principal Cities*

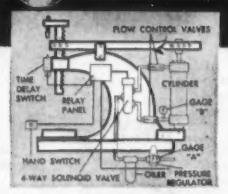
Send for **FREE** brochure

For more details circle NED-698 L on enclosed inquiry slip

PNEU-TROL

AUTOMATION TIME DELAY SWITCH

FOR CONTROLLED TIME DWELL OF AIR OR HYDRAULIC CYLINDERS



Arbor press converted to high production power press, using double end cylinder, Time Delay Switch, Flow Control Valves, and related equipment. Flow Valves permit independent ram speed adjustment in both directions. Differential pressure between "A" and "B" gages caused by throttling effect of Flow Control Valve creates time interval in working pressure build-up, which is compensated for by Time Delay Switch setting. This insures consistently accurate working pressure on the ram.

- Holds dwell accurately to fraction of second
- Automatically re-sets
- Designed for millions of actuations

Pneu-Trol Time Delay Switch will hold any cylinder controlled motion or operation at a positive stop on either end of the stroke for ¼ to 60 seconds in 20 to 1 ratios. Simple, easy to adjust. Automatically re-sets after each actuation. Positive, controlled time dwell permits wider use of air or hydraulic power in automatic operations, increases accuracy of work by insuring split-second accuracy of time dwell. Available with many thrust linkages for left and right, down, up, or horizontal thrust. Write for Special Bulletin TDS-59

AUTO PONENTS INC 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

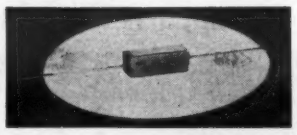
For more details circle NED-699 L on enclosed inquiry slip

STENCILING MARKING KIT
includes printer, stencils, ink

Rapid and inexpensive method of addressing multiple carton shipments or marking product identification on cartons, crates, tags, or labels is provided by the Touch Stenciling Marking Kit. One stencil, prepared with office paperwork, will address and mark an entire shipment. Kit includes a Web-O-Print handprinter with metal stand, 25 stencils, 4-oz bottle of fadeproof and waterproof ink, stylus, and instructions. Handprinter capacities range from ⅞ x 2¾ in. to 3 x 7 in. and cost from $7 to $23. Illustrated Model R-1232 has a 2 x 3¼-in. capacity. • **Weber Marking Systems, Inc.**, Weber Industrial Park, Mt. Prospect, Ill.

For more details circle NED-700 L on enclosed inquiry slip

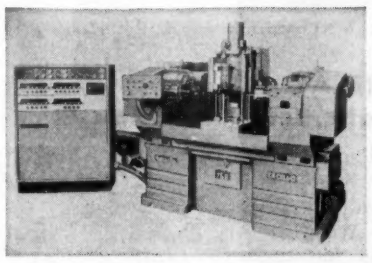
WIRE-WOUND RESISTOR
3-w fireproof inorganic type



Resistance elements of the PW-3 axial lead power wire-wound resistor are uniformly and tightly wound on glass fiber cores. Tinned copper leads are secured to the element, and this assembly is sealed in a rectangular ceramic case. The 3-w fireproof inorganic unit is made in a 0.24 to 6200-ohm resistance range with ±5 and ±10 per cent standard tolerances. Its heavy duty crimp termination passes a 5-lb pull test, even on the bare element. Temperature compensation and fusing features are optional. Price is under $50 per thousand. • **International Resistance Co.**, 401 N. Broad St., Philadelphia 8, Pa.

For more details circle NED-701 L on enclosed inquiry slip

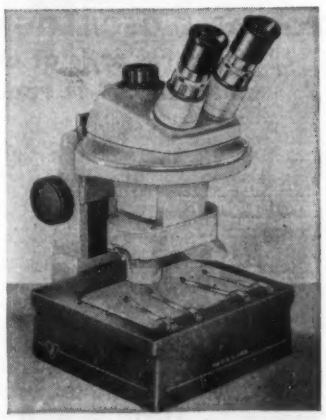
TAPE-CONTROLLED BORER
selects hole size and location



Accuracy of hole diameter is held within 0.0005 in., center locations within 0.0002 in. of true position, and boring depth within ±0.0005 in. when performed on the Numera - Trol tape-controlled boring machine. Several holes of various diameters are bored in selected locations automatically and in sequence by the machine. It not only positions the work in relation to the boring tool, but also adjusts the boring tool to the required hole diameter while the spindle is operating. Programming of infinite boring diameters is possible within a 1-in. range. The boring bar insert used determines the actual size range. • **Ex-Cell-O Corp.**, 1200 Oakman Blvd., Detroit 32, Mich.

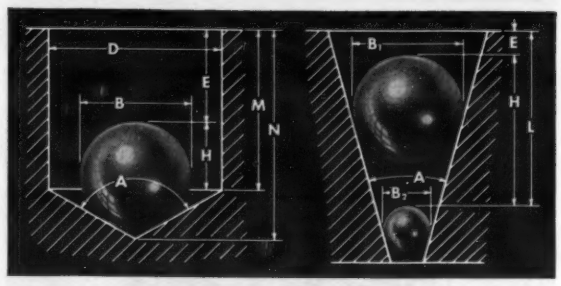
For more details circle NED-702 L on enclosed inquiry slip

MAGNIFYING STEREOSCOPE
for parts comparison, photo study



Incorporating zoom magnification, this Zoom 70 Stereoscope is usable in the field of photo interpretation as well as for comparison of one object with another. Infinite magnification within a 0.7x to 3.0x range is obtainable with a single knob. Addition of a 10x or 20x wide-field eyepiece extends this range through 60x. Positive or negative transparencies are held on translucent glass plate of the combination stage and light box base with clips. Four fluorescent tubes with dimming control give internal illumination in box. An external illuminator facilitates checking opaque prints or industrial parts. Eyepieces are adjustable to user's eye for width and acuity. The entire optical system is sealed to exclude dirt and moisture. Two rhomboidal prisms afford dual image viewing, one superimposed precisely over the other. • **Bausch & Lomb Inc.**, 635 St. Paul St., Rochester 2, N. Y.

For more details circle NED-703 L on enclosed inquiry slip



Tungsten Carbide

MASTER BALLS

- **For simplified checking** of hole depth, ID's, internal tapers — setting comparator gages — many other uses in shop, tool room and gage room.
- **Accurate to .000,010"** on size and sphericity.
- **Extremely hard** and wear-resistant. *Do not pit or rust* from handling or humidity.
- **Available from stock** in sets or individually in 31 sizes — 1/16" to 1" by 1/32" increments.

BULLETIN P-41 gives specs and prices. BULLETIN B-41 gives hole-checking methods and formulas. Write for them!

INDUSTRIAL TECTONICS, INC.
MANUFACTURERS OF PRECISION BALLS AND BEARINGS
BALL DIVISION: 3686 JACKSON RD. ANN ARBOR 3, MICHIGAN

For more details circle NED-704 L on enclosed inquiry slip

■ For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

For more details circle NED-705 L on enclosed inquiry slip

"Sure-Flex" Couplings 4-way flex is . . .

. . . A "SURE CURE" FOR SHOCK, VIBRATION, SHAFT MISALIGNMENT

Unique design and 4-way flex enable Wood's "Sure-Flex" Couplings to absorb not only all types and combinations of misalignment and end-float . . . but up to 15 times more shock and vibration than other leading flexible couplings. Only four basic, easily installed parts. No clamps or screws. No wear, no lubrication or maintenance. Unaffected by abrasives, dirt or moisture. Operation is noiseless. WRITE FOR BULLETIN 5103.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

For more details circle NED-706 L on enclosed inquiry slip

SOLVE "TOUGH" PARTS PROBLEMS WITH Colonial's SILICONE RUBBER

There's practically no end to the usefulness of silicone rubber as a material for making rubber parts. It won't melt or harden at 700 deg. F., won't conduct electricity, is not affected by sun, water or weather, and even dry ice can't freeze it. These and many other desirable properties which can be obtained through Colonial's expert compounding, make silicone rubber the most likely material for solving your "tough" parts problems.

Whether you are designing new products, or improving existing ones, contact Colonial Rubber Company for details on the advantages of fabricating more efficiently and *profitably* with silicone rubber. Our service is complete . . . you can call on us for any one or all three of the following:

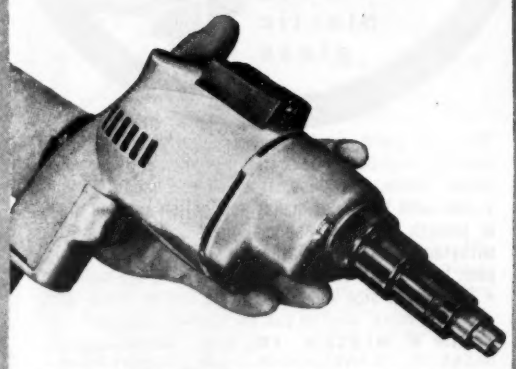
EXPERT COMPOUNDING
ACCURATE PRODUCTION
QUICK DELIVERY

1967-1

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle NED-707 L on enclosed inquiry slip ▲

NEW! from SKIL



today's lowest price true drivers

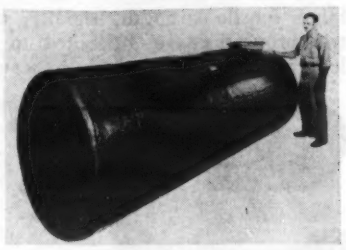
- **At only $42.50 for straight drive Model 139 and $49.50 for reversing Model 140, these new SKIL Drivers make hand assembly extravagant.**
- **For production, maintenance, installation work—wherever power fastening can speed up assembly.**
- **Rugged, positive clutch delivers powerful torque for fastening wood, metal, etc.**
- **Capacities: No. 10 wood and self-tapping screws; No. 12 machine screws and nuts.**

Call your Skil distributor for a demonstration. He's listed in the Yellow Pages under "Tools—Electric." Or simply write: Skil Corporation, Dept. 119K. 5033 Elston Avenue, Chicago 30, Illinois.

SKIL ... AND SKILSAW POWER TOOLS

▲ For more details circle NED-708 L on enclosed inquiry slip ▲

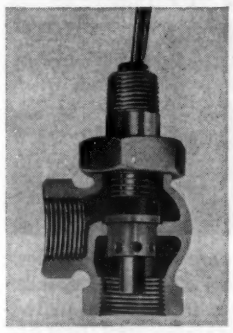
REINFORCED POLYESTER TANKS for storing corrosive liquids



Bisphenol - A polyester resin reinforced with glass fibers used in this line of vertical and horizontal tanks is resistant to prolonged contact with most acids, alkalies, and bleaches at elevated temperatures. Capacities ranging from 20 to 20,000 gal are usable for storing and processing. They have a high strength-to-weight ratio and high impact resistance. Translucence makes for ready observation of the liquid level. Optional fittings include a manhole with cover and cadmium plated lugs, and stainless steel or reinforced plastic fittings of any specified type. Reinforced plastic mounts are made to order. A 1000-gal tank weighs only 350 lb. • **Justin Enterprises, Inc.,** 7000 Montgomery Pike, Cincinnati 36, Ohio.

▲ For more details circle NED-709 L on enclosed inquiry slip ▲

FLUID FLOW SWITCH detects variations in flow rate

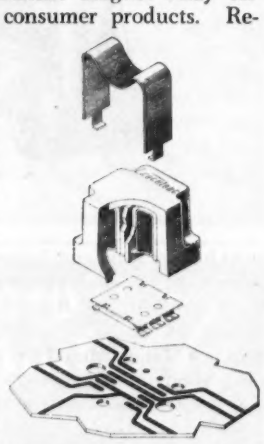


Only one moving part in the FS-400 flow switch assures its trouble-free operation in detecting and indicating variations in the flow rate of fluids or gases. Unit will actuate a remote warning light or other visual or audio indicator as well as automatic interlocks or pump motors through suitable relays. Displacement of the magnet-equipped shuttle by liquid or gas closes the hermetically sealed switch contacts within the bronze stem. It replaces any standard elbow fitting and is available in port sizes from ¾ through 2 in. NPT. Components are corrosion resistant, and variations to withstand shock and vibration are available. • **Gems Co.,** Sheppard Lane, Farmington, Conn.

▲ For more details circle NED-710 L on enclosed inquiry slip ▲

PERMANENT MAGNET RELAY has integral printed contacts

Substantial savings in weight and space are made possible with the Printact permanent magnet relay for commercial, industrial, and consumer products. Relay is mounted on and is integral with a printed circuit contact board and employs a permanent magnet to hold the relay armature open. This force remains constant and needs no adjustment or maintenance. Any switching combination up to three-pole double-throw is possible, and a single relay will control up to six circuits determined by the printed circuit design. Six, 12, and 24-v dc operating voltages are offered. • **Executone, Inc.,** Components Div., 47-37 Austell Place, Long Island City 1, N. Y.



▲ For more details circle NED-711 L on enclosed inquiry slip ▲

ROTARY DISC FEEDER handles fragile parts at high speed

Ceramic, glass, highly finished enameled, and otherwise fragile parts are oriented and fed to a transfer track without damage and at high feed rates by this rotary disc feeder. Device employs a flat disc rotating about an axis slightly off vertical. A special groove machined into the outer radius of the disc orients the parts. Several models, available with 18 and 24-in. diameter bins, can sort, feed, and orient several sizes and styles of parts. Automatic counting and batching, flip-over, auxiliary parts supplier, automatic bagging, and multitracking accessories are optional. • **Aidlin Automation, Inc.,** 1613 E. New York Ave., Brooklyn 12, N. Y.

▲ For more details circle NED-712 L on enclosed inquiry slip ▲

MOTORIZED LIFT TRUCK BATTERY CHARGER ELIMINATES SPECIAL WIRING

- No special wiring required.
- Plugs into a standard 15-ampere, 60-cycle, 115 v convenience outlet.
- Long, trouble-free life.
- Convection cooled, requires no maintenance.
- No aging adjustments required.
- Can be wall or battery mounted.
- Fully automatic; portable.
- For all 12-volt hand motorized lift truck batteries, up to 660 A.H.

Write for complete details in Bulletin AR-100.

C&D AutoReg® Silicon Chargers

A PRODUCT OF C&D BATTERIES OF CONSHOHOCKEN, PA. ... ATTICA, IND. DIV. THE ELECTRIC AUTOLITE CO.

Manufacturers of Sylver-Clad® Industrial Batteries • PLASTICELL • and PLASTOX® Batteries for Communications, Control, and Auxiliary Power • Producers of AutoReg® Silicon Chargers and AutoCel • Charger-Battery Combinations.
*Trademark

▲ For more details circle NED-713 L on enclosed inquiry slip ▲

▲ For more details circle NED-714 L on enclosed inquiry slip ▲

FLAMELESS BLOW TORCH

FOR QUICK HEAT UP TO 1000° F.

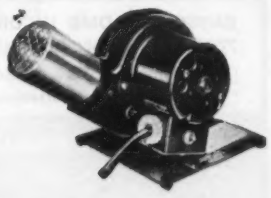
For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-120 V. AC-DC motor, 8 ft. heavy duty cord. Intermittent duty.

Other models available with lower temp. ranges

Most of the big names in industry use MASTER in laboratories or in production Model 12750—110 volt—$41.25

AIR HEATER BLOWER

For quick electrically heated air up to 500° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-130 V. AC only. 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.



Order through your local laboratory or industrial supplier or direct.
300° F.—1000 Watts—$41.25
500° F.—1400 Watts—$43.45

MASTER Appliance Corp., Racine, Wisconsin

▲ For more details circle NED-715 L on enclosed inquiry slip ▲

... Fluid Power news

OILGEAR *Fluid Power NEWS 13*
JUST OFF THE PRESS! *FREE!*

Four factual, concise engineering reports — complete with diagrams—covering Oilgear Application-Engineering at work in the Marine, Paper, and Food Industries. Get your copy explaining these unusual, heavy-duty applications. Previous issues are still available with reports on the following industries:

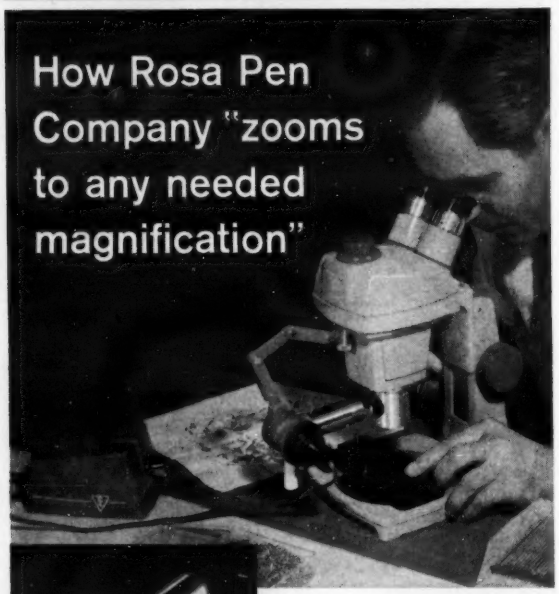
Paper ☐ Food ☐
Marine ☐
Printing ☐
Chemical ☐

Check and return with your request for News 13

THE OILGEAR COMPANY
Application-Engineered Controlled Motion Systems
1582 WEST PIERCE STREET • MILWAUKEE 4, WISCONSIN

▲ For more details circle NED-716 L on enclosed inquiry slip ▲

How Rosa Pen Company "zooms to any needed magnification"



Rosa uses B&L StereoZoom Microscopes for internal inspection of socket this size.... , zooms instantly to any power needed for other inspections.

Before spinning the ball (as small as the period at the end of this sentence) into the socket of their fine ball-point pen, Rosa Pen Company, Lyndhurst, N.J., uses B&L StereoZoom® Microscopes for a number of critical checks.

They check the interior finish of the socket (1 mm to .025″ diameter, depending on the model), using the B&L Vertical Illuminator for depth lighting. The ink channels inside the socket are checked for uniformity and freedom from flaw. The ball is checked for finish, uniform surface, feather edge. After assembly, ball and socket are inspected for concentricity and free spin, and the ball's feather edge is checked again.

"With this new B&L microscope," says Mr. A. G. Rosa, President, "we can zoom up or down, for the different magnifications we need for different inspections—from 3.5X to 120X—with the work always in the field of view, and the same free working distance all the time."

Find out how B&L StereoZoom Microscopes can help solve some of *your* toughest assembly and inspection problems.

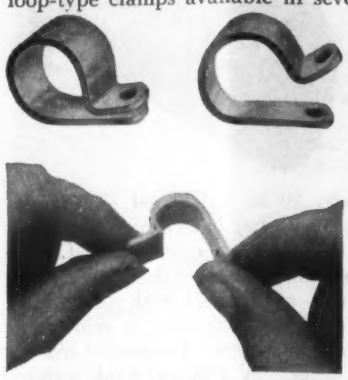
BAUSCH & LOMB SINCE 1853

BAUSCH & LOMB INCORPORATED
72711 Bausch St., Rochester 2, N.Y.
☐ Send me new B&L StereoZoom Catalog D-15
☐ Schedule a demonstration at my convenience.
Name, Title .....
Company .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-717 L on enclosed inquiry slip ▲

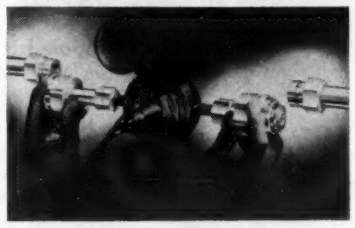
POLYPROPYLENE CLAMPS
in 1/8 to 1/2-in. diameter sizes

High tensile strength, rigidity, and excellent dielectric properties are attributed to these polypropylene loop-type clamps available in seven diameters from 1/8 to 1/2 in. They can be used as wire and cable clamps, transformer lead clips, for strain relief, and as tube and pipe hangers. Clamps are molded with smooth round edges and resist solvents, grease, oil, many common acids, and chemicals. They open to any diameter for application and are held in place by a single rivet, screw or bolt. Samples are available. • **Holub Industries, Inc.**, 430 Elm St., Sycamore, Ill.



▲ For more details circle NED-718 L on enclosed inquiry slip ▲

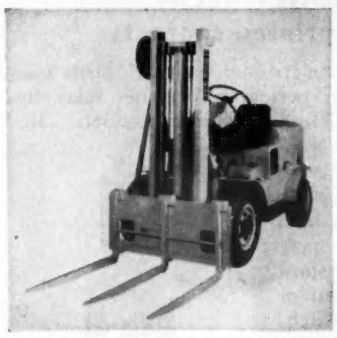
QUICK-DISCONNECT COUPLINGS
for permanent piping applications



Rigid-line quick-connect, quick-disconnect coupling is used in pairs for quick addition or removal of relief, flow control or check valves, gages, pumps, or meters in permanent pneumatic, hydraulic or other fluid lines. Coupling seals tightly on user's choice of rubber gasket. It is offered in 1/2 and 1-in. ID sizes, in cadmium plated steel, anodized aluminum, or 316 stainless steel. End fittings include male and female pipe thread types in various sizes and tubes for brazing or welding. • **Snap-Tite, Inc.**, 201 Titusville Rd., Union City, Pa.

▲ For more details circle NED-719 L on enclosed inquiry slip ▲

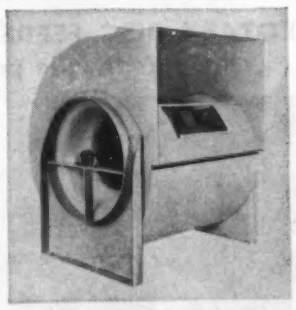
LIFT TRUCKS
3000, 4000, and 5000-lb capacities



Line of pneumatic-tired fork lift trucks consists of a new 3000-lb capacity Model Y-3024 and revised Models Y-4024 and Y-5024 with 4000 and 5000 lb capacities, respectively. Features include power steering, 12-v electrical system, exhaust system with automotive type header pipe and larger muffler, and a conveniently located instrument panel. Frame has been narrowed by 7 in. with resulting decrease in turning radius of almost 34 in. Lift speeds have been increased to 55 fpm. • **Truck-Man Lift Trucks**, 584 Liberty St., Jackson, Mich.

▲ For more details circle NED-720 L on enclosed inquiry slip ▲

CENTRIFUGAL BLOWERS
capacities range up to 725,840 cfm



Air conditioning systems, cement plants, plating plant fume exhaust, and various drying processes at temperatures up to 850° F are applications for the redesigned BC Line of centrifugal blowers. Units have a deepened inlet cone and welded, backward curved, spun wheel shrouds. Single and double-width blowers have capacities from 344 to 725,840 cfm, static pressures from 1/4 to 6 in., and wheel diameters range from 12 1/4 to 132 1/2 in. Fan accessories are variable inlet vanes and outlet dampers for volume control, inlet guard screens, access doors, housing drains, cooling wheels, antivibration bases, belt guards, and weather hoods. Several types of bearings, special coatings and linings, and spark resistant construction are optional. • **Bayley Blower Co.**, 1817 S. 66th St., Milwaukee 14, Wis.

▲ For more details circle NED-721 L on enclosed inquiry slip ▲

NEW BULLETIN
on powerful new Air Drills

Bulletin 11-53 describes Gardner-Denver's new No. 3 series of lightweight, powerful air drills. New muffling technique cuts noise level without sacrificing power. Gears, spindles and chucks are interchangeable —adding versatility. Available with pistol grip or offset handle, or short head. Write for your free copy of Bulletin 11-53 today.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

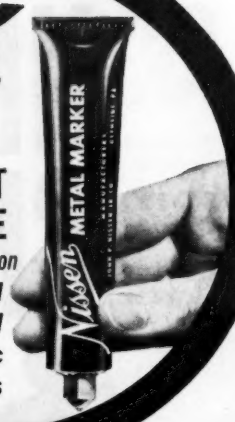
GARDNER-DENVER Since 1859

GARDNER-DENVER

▲ For more details circle NED-722 L on enclosed inquiry slip ▲

USE THE *Nissen*

BALL POINT WRITING TUBE
make permanent marks on
metal wood plastic glass

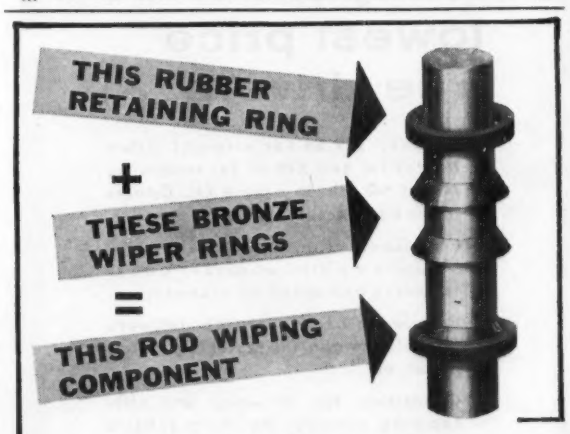


This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because:
• **tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines**

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

▲ For more details circle NED-723 L on enclosed inquiry slip ▲



the efficient **SEAL-GUARD®**

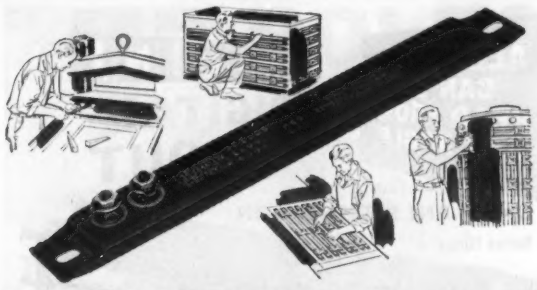
KEEPS DIRT OUT!

Modern *Seal-Guard* keeps hydraulic and pneumatic systems clean—protects packings and entire system. Two knife-like bronze wipers throw all contaminants outward as rod retracts into cylinder. Rubber retainer absorbs shock and side load, holds wipers in full contact with rod and provides an overall outside seal.

Send for all the facts on Seal-Guard. Write E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

SEAL-GUARD® by
Industry's Partner in Production
E. F. HOUGHTON & CO.
Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

▲ For more details circle NED-724 L on enclosed inquiry slip ▲



CHROMALOX ELECTRIC STRIP HEATERS

Quick, low-cost solution to production heating problems

For heating tanks, kettles, pipes, platens, dies, ovens . . . just about anything. Chromalox Electric Strip Heaters provide uniform heat to exact temperatures.

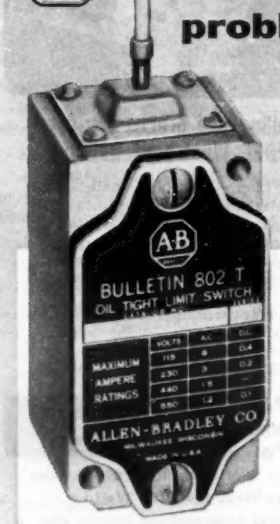
Available in shapes, sizes and wattages to fit hundreds of industrial heating needs . . . including yours. Installation is quick and easy . . . using standard bolts or clamps. Heaters give long service, with little or no maintenance. Temperatures are maintained by manual or automatic controls.

For more information and prices . . . call your Chromalox Sales-Engineering Representative, or write for Bulletin PA 100.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-725 L on enclosed inquiry slip

Allen-Bradley has the solution to your Limit Switch problem . . .



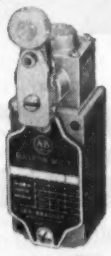
There's always something new in the A-B line

Cat's whisker limit switch for very low operating force applications (5 oz-in.).

Here are just a few of the more recent additions to Allen-Bradley's broad line of Bulletin 802T oiltight limit switches. Like all A-B oiltight limit switches, they are sealed against oil, dirt, and metal chips—operators cannot become sluggish, and contacts cannot become fouled. The snap action switch mechanism maintains high contact pressure up to the point of switchover. Vibration cannot cause faulty operation. Good for millions of trouble free operations.

There's an A-B limit switch to fit your exact requirements. Send for full details.

Duplex switch with two roller lever actuators



Micrometer adjustment roller lever limit switch

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
Quality MOTOR CONTROL

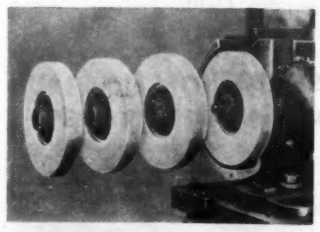
For more details circle NED-726 L on enclosed inquiry slip

REINFORCED GLOVES have leather at points of wear

Thumb, palm, and fingers are points of wear which are reinforced with leather in this line of standard work gloves. The extra heavy patch extends the life of the gloves, available in the various styles shown. Gloves may be purchased with various combinations of reinforcements. • **Monte Glove Co.**, Maben, Miss.

For more details circle NED-727 L on enclosed inquiry slip

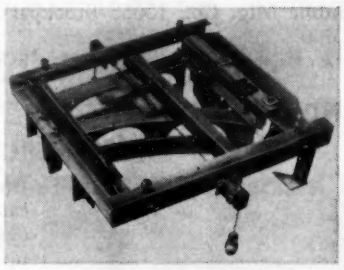
GRINDING WHEEL MOUNTS speed up wheel interchange



By predressing all the grinding wheels for a job and interchanging them rapidly with wheel mount adaptors for the R-O grinder, the job of sharpening multicut tools is simplified. The taper spindle available for the grinder accepts wheel mounts having 3-in. taper-per-foot ID bores. Use of the mounts assures exact alignment and balance of the wheel each time it is reinstalled. Mounts are available in lengths for 1/16, 1/4, 1/2, and 3/4-in. thick wheels. • **R-O Mfg. Co.**, 31171 Stephenson Highway, Madison Heights, Mich.

For more details circle NED-728 L on enclosed inquiry slip

OVERHEAD TRACK SWITCHES shifted by hand, electric, air power



Designed for manually operated and motor propelled overhead track systems, two switches are made for left hand, right hand, and three-way operation. Types K and L are built for loads of 2000 to 4000 lb and may be shifted by hand, electric, or air power. Jig assembly assures permanent alignment. Safety guards prevent carriers from running off open ends of incoming rails. Parts subject to wear may be quickly replaced. Photo shows Type L right hand nonelectrified switch. • **Cleveland Crane & Engineering Co.**, Cleveland Tramrail Div., 1143 E. 283rd St., Wickliffe, Ohio.

For more details circle NED-729 L on enclosed inquiry slip

NEW! x-acto® PENKnife

The world famous X-acto knife in a brand new "carry-about" case!

• **Famous X-acto Knife Features!** All the features of the famous interchangeable Blade X-acto Knife. Takes 3 styles of surgically sharp blades—specially designed for precise cutting and slitting operations.

• **So Safe!** Crystal clear "See-Thru" Plastic Cup reveals the blade. No mistaking it for anything but a knife when carried with other capped instruments.

• **Always Convenient!** Just clip it to your pocket and carry it with you everywhere.

For immediate improvement in efficiency, accuracy and safety switch to X-acto!

(*Here's an idea!* The X-acto PenKnife can be imprinted. It makes an excellent business gift. Complete details, with quantity prices, sent upon request.)

No. 3-ST Actual Size

Open and ready for action! When not in use, replace the cap (like a pen) and clip it to your pocket . . . always handy.

No. 10 – for small, fine general cutting.
No. 11 – for fine angle cutting, deep cuts, narrow spots.
No. 16 – for small holes, notches, stencils — in thin materials.

Sample Offer

HANDICRAFT TOOLS, Inc.
Div. of X-ACTO, INC.
48-416 Van Dam Street
Long Island City 1, N. Y.
Enclosed is $1.00. Please send me a PenKnife with the number_____ (specify #10, 11 or 16 blade) blade and free illustrated catalog of X-acto precision knives, blades, and tools.

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-730 L on enclosed inquiry slip

LOW COST INCINERATOR

BURNS TRASH SAFELY OUTDOORS

Only $110.00 COMPLETE

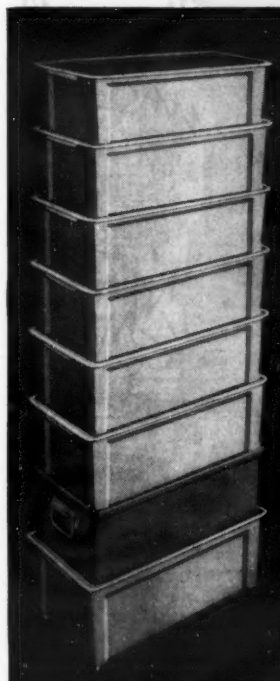
NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

Write for **FREE** *Folder*

ALSTO COMPANY
Dept. 14 4007 Detroit Ave. Cleveland 13, Ohio

For more details circle NED-731 L on enclosed inquiry slip



Durable

Lightweight

Stacks with Metal Boxes

All in one by . . .

TOTELINE

Now . . . a sturdy tote box of strong-as-steel molded fiber glass which stacks interchangeably with your present metal boxes of the popular 10 by 20 by 8-inch size.

You can benefit from the advantages of durable molded fiber glass immediately by introducing Toteline Model 538-1 into your present system. Then replace metal boxes with Toteline boxes as the metal boxes need replacement.

Toteline boxes last indefinitely without maintenance. They are immune to rust . . . you can't dent them and they never need straightening. There are no sharp edges . . . just smoothly rounded corners. Model 538-1 cleans easily with hot water.

Molded handles are a part of the integral, one-piece stacking lip. Steel wire, completely concealed within the edges of the box, add strength and rigidity.

For further information and descriptive catalog, just cut out this coupon and clip to your letterhead. Please furnish your name and title.

NAME _____
TITLE _____ MF-10-A-NED

MOLDED FIBER GLASS TRAY CO.
LINESVILLE, PA.
Chosen to Represent the U.S. Reinforced Plastics Industry at the 1959 International Trade Fair in Zagreb, Yugoslavia

For more details circle NED-732 L on enclosed inquiry slip

SAVE UP TO 25% ON ELEVATOR COSTS

Using dependable hydraulic power, Rotary Oildraulic Elevators operate with maximum efficiency. Power is applied directly to the load . . . no lost motion or wasted energy. The elevator car is supported by a powerful hydraulic jack, eliminating the need for heavy load-bearing shaftway and overhead machinery. Capacities to 100,000 lbs. Installed and serviced by a nationwide organization. Write for catalogs.

ROTARY OILDRAULIC® ELEVATORS

Rotary

Rotary Lift Company
Division of Dover Corporation
1125 KENTUCKY • MEMPHIS 2, TENN.

▲ For more details circle NED-733 L on enclosed inquiry slip ▲

. . . be heard there!

A "Hear Here" Acousti-Booth guards telephone conversations . . . *shuts out noises* that garble speech and muddle hearing . . . provides privacy.

Why tolerate mistakes and misunderstandings? There is an Acousti-Booth model for every location.

Acoustical Performance Guaranteed

For descriptions and prices ask for Bulletin No. A-142-41

BURGESS-MANNING COMPANY
Architectural Products Division
749 East Park, Libertyville, Ill.

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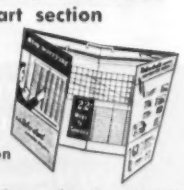
"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time*, bringing deadlines constantly closer. Entries easily erased.

Send for ***FREE GUIDE to Control Methods***
with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.

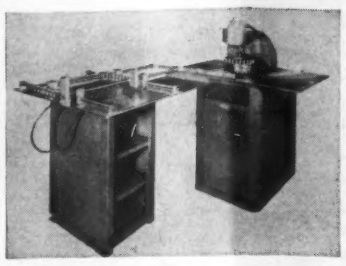


Rol-a-chart Division

Conley, Baltzer & Steward, 494 Jefferson Street, San Francisco 9

▲ For more details circle NED-735 L on enclosed inquiry slip ▲

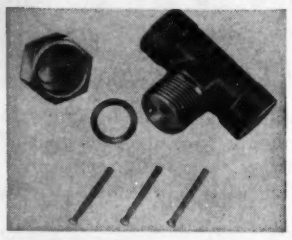
TURRET PUNCH PRESS
operates with duplicating table



The Rotex Duplicating Turret Punch Press combines a modified Model 18-AH or 18-BH power operated turret punch press with a precision duplicating table. Semiautomatic machine enables operators to punch short and medium production runs of panels, chassis, and other light metal fabrications faster and more accurately. Duplicator handles templates up to 24½ x 18½ in. Operator locates holes on workpiece by inserting a stylus in holes drilled in the template clamped to the duplicator table. Eighteen punch and die combinations are available. No change in setup is required for different hole sizes. • **Rotex Punch Co.**, 2350 Alvarado St., San Leandro, Calif.

▲ For more details circle NED-736 L on enclosed inquiry slip ▲

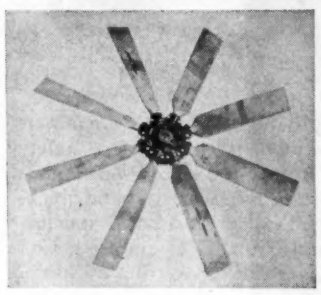
PRESSURE GAGE SNUBBER
prevents damage in sensitive gages



This pressure gage snubber with 13 different settings prevents damage and excessive wear in sensitive gages and helps obtain accurate readings by eliminating rapid fluctuations of the needle. Maximum working pressure is 5000 psi. Variations are accomplished by selecting one of various combinations of three stainless steel pins which can be changed without disturbing line connections. A blank hole stores the third pin while two are in use. Snubber is made of brass and stainless steel forgings in ¼ and ½-in. internal pipe threads. • **Republic Mfg. Co.**, 15655 Brookpark Rd., Cleveland 35, Ohio.

▲ For more details circle NED-737 L on enclosed inquiry slip ▲

INDUSTRIAL FANS
operate against 2-in. water pressure

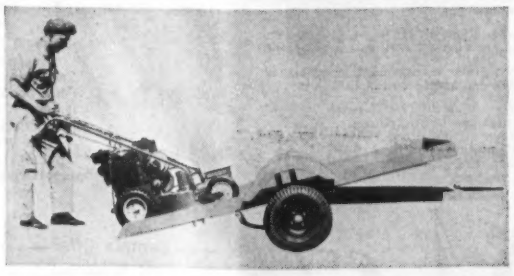


An eight-bladed model capable of operating against static pressure up to 2 in. of water is included in Aeromaster Series 8 industrial fans available in 54 to 120-in. diameter sizes. Fans are intended for use in high performance radiator - type cooling equipment, air conditioning, and refrigeration units. One-piece heat-treated cast aluminum alloy blades have an endurance limit of 13,000 psi. Ductile cast iron hub has 16-in. diameter for maximum airflow around its periphery. Hub can be installed by itself and the blades bolted into position later. • **Koppers Co.**, Metal Products Div., 200 Scott St., Baltimore 3, Md.

▲ For more details circle NED-738 L on enclosed inquiry slip ▲

TILT TYPE TRAILER
1000-lb unit is easy to load

Small vehicles and equipment on wheels or rollers are trailed smoothly on the 1000-lb capacity Taskmaster utility trailer. Its Loadamatic nonskid ramp tilts to



the ground for driving or guiding equipment on and off. As load is moved forward, the ramp automatically swings into a horizontal position and locks for transport. Ramp length is 8 ft and width is 4 ft. The 530-lb trailer has 5:30 x 8 tires on demountable wheels, a Class A tail light, coupler and safety chain, semi-elliptic springs and flip-down parking stand. Stake body and electric brakes are options. • **Mastercraft Trailers, Inc.**, Middlefield Street, Middletown, Conn.

▲ For more details circle NED-739 L on enclosed inquiry slip ▲

ALL DIGITS CAN BE READ FROM ANY ANGLE

IN-LINE DIGITAL READOUT

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Series 10000

Over 1000 firms throughout the world in just a few years prove unprecedented acceptance of IEE digital readouts.

The IEE digital readout puts the digit right up front, visible from any angle. Vision is unimpaired by stacked characters and sharp, clear-white digits provide high-contrast, error-proof reading. Use of words, color, and multiple projections offer utmost versatility.

Binary-To-Decimal Decoders Available.
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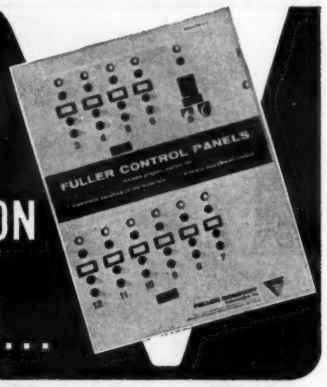
INDUSTRIAL ELECTRONIC ENGINEERS, INC.
Engineers and Manufacturers of Fully Automatic Systems and Digital Readouts
5928 Vineland Avenue, North Hollywood, California

▲ For more details circle NED-740 L on enclosed inquiry slip ▲

FOR FACTS ON PUSH-BUTTON REMOTE CONTROL...



. . . of systems for handling and processing dry solids . . . get this FREE illustrated bulletin

Complete information on Fuller Control Panels which control the flow of bulk materials automatically, simply and economically. A single push button starts the complete operation.

Operational safety is provided by "feedback" systems. Panels indicate process transition from one phase to another.

One man can control several complete operations. Errors in human judgment are minimized.

For information on the several standard panel types available, write for Bulletin G-9. No charge, of course!

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller
pioneers in harnessing air

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
2615 CP-1 **Offices in Principal Cities Throughout the World**

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ONE RESPIRATOR STOPS ALL HAZARDS!

ALL DUSTS*
RADIOACTIVE DUSTS
MISTS* LIGHT SMOKE
ORGANIC VAPORS AND ALL DUSTS*
PAINT SPRAY ORGANIC VAPORS*
AMMONIA FUMES ACID GASES
INSECTICIDES†

C-200 Series Respirator by *Pulmosan*

- Single filter retainer cup
- Interchangeable filters
- New molded plastic clip-cap permits cartridges and pre-filters to be replaced independently
- Lightweight, easy to wear

*Approved by U.S. BUREAU OF MINES

†Accepted by U.S. BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Write for details:

PULMOSAN STOPS Aerosols

Pulmosan SAFETY EQUIPMENT CORPORATION
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▲ For more details circle NED-742 L on enclosed inquiry slip ▲

UP TO 75 POLES

can be controlled by a single handle

with ESCO Type JM ROTARY SWITCH.

Manufactured to BuShips drawing 815-1853019 and Specification MIL-S-21604.

- Sections ..... up to 25
- Positions ..... up to 12
- Action ..... detent, 30° indexing
- Contacts ... break-before-make or make-before-break
- Rating ..... 5 amp. 125 volts a-c at unity power factor
- Mounting ..... back of panel

For detailed information ask for Bulletin 22.

ESCO of WEYMOUTH
ELECTRO SWITCH CORP.
Weymouth (Boston 88), Massachusetts

▲ For more details circle NED-743 L on enclosed inquiry slip ▲

NEW NYLAFLOW® PRESSURE HOSE

WEIGHS 1/5th AS MUCH... OUTPERFORMS RUBBER HOSE OF SAME BURST STRENGTH

Flexible NYLAFLOW Pressure Hose* is Polymer's newest and best answer to jobs requiring exceptional resistance to flex and vibrational fatigue.

Available in burst pressure ratings of 5000 and 8000 psi., and in long, continuous lengths and standard diameters up to ½" . . . with compact, lightweight, reusable fittings or assemblies if desired.

Unaffected by flammable and non-flammable hydraulic fluids, hydrazine and other rocket fuels, with excellent resistance to hot paint and almost all organic solvents. Freon permeability is approximately 1/10th that of rubber hose. An excellent non-conductor.

Odorless, non-toxic, non-corrosive, fungus resistant and will not embrittle in storage. Temperature range (−65°F. to +250°F.). Form stable but can be permanently heat-formed to small, stress-free bend radii.

NYLAFLOW Pressure Tubing also available. Burst pressure ratings of 1000 and 2500 psi.

Full details and illustrated brochures now available.
WRITE TODAY!

POLYPENCO
INDUSTRIAL PLASTICS
THE POLYMER CORPORATION OF PENNA.
Reading, Pa.

*Patents Applied For Export Polypenco, Inc., Reading, Pa., U.S.A.

▲ For more details circle NED-744 L on enclosed inquiry slip ▲

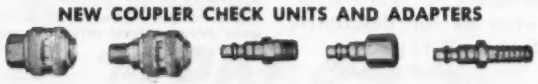
NEW! SCHRADER INDUSTRY INTERCHANGEABLE HI-FLO AIRLINE COUPLER

SAFE! Won't open accidentally, even when dragged, or snarled on machinery. Heavily knurled coupler connects or disconnects in single upstream push or pull, with one hand, even if gloved or greasy.

FEATURES! Fastest airflow . . . non-corrosive . . . case hardened steel all through . . . meets and exceeds mil specs . . . engineered for easy replacement of parts in field.

IMPORTANT! Interchangeable with others of similar types. Variety of end fitting styles available. Your distributor has them now.

NEW COUPLER CHECK UNITS AND ADAPTERS



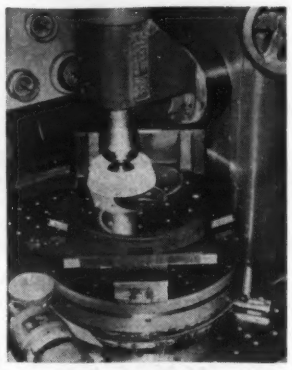
#5138-12-¼ N.P. Female | #5139-12-¼ N.P. #5140-12-⅜ N.P. Male | #5138-11-¼ N.P. Male | #5139-11-¼ N.P. Female | #5140-11- Serrated Shank FOR ⅜ I.D. HOSE

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle NED-745 L on enclosed inquiry slip ▲

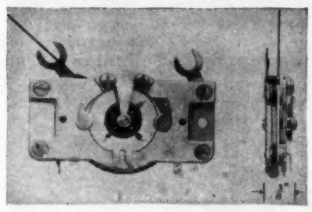
ROTARY TABLE parallel to within 0.000005 in.



Inspection, grinding, and lapping operations where concentricity, squareness, and parallelism are vital are typical applications for the Ultraron rotary table which features runout and parallelism accuracy within 0.000005 in. Table comprises a heavy steel base and a revolving top plate supported by a matched set of balls which are round to within 2 to 3 millionths. The 4½ in. high, 17-in. diameter table shown weighs about 300 lb and will support 1000-lb loads. Other diameters range from 6 to 96 in. Motorizing equipment can be ordered. • AA Gage Co., 350 Fair St., Detroit 20, Mich.

▲ For more details circle NED-746 L on enclosed inquiry slip ▲

SURFACE MOUNTING METERS panel type have printed circuits



Ten full scale ranges from 1 ma to 1 amp dc, ten ranges from 10 to 500 v dc, and ten ranges from 10 to 500 v ac are available in five groups of Series S35 surface mounting panel meters. Of very slim design, they incorporate a printed circuit meter movement, a resilient nylon bristle pointer to withstand extreme overloads, and a thin ring ceramic magnet. Bearings are synthetic sapphires in silicone rubber shock mounts. Accuracy exceeds 1.5 per cent of full scale at 70° F ambient. Special accuracy to 0.5 per cent and mirrored scales can be specified. Meters are 3½ in. high and wide, and ½ in. thick. The ⅞-in. rear-projecting terminals also serve as mounting screws. • Interlab Inc., 116 Kraft Ave., Bronxville, N. Y.

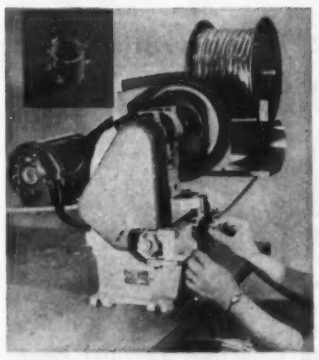
▲ For more details circle NED-747 L on enclosed inquiry slip ▲

PRESSURE-VACUUM VENT for flammable-liquid storage tanks

Literally breathing to compensate for pressure built-up, Figure 548 pressure-vacuum vent maintains safe pressure in flammable-liquid storage tanks regardless of summer and winter temperature differentials. Device has an iron body with raised metal-to-metal brass seats and poppets, a test gage opening, and a gage hatch opening for direct measurements. Horizontal discharge hood can be assembled to relieve in any one of three directions. Used with No. 143 and 244 emergency escapement relief valve and mounted 12 to 18 in. above top of tank or platform, vent has a range from 800 cfh at 8 oz pressure to 30,500 cfh at 5 psi. • Morrison Brothers Co., Dubuque, Iowa.

▲ For more details circle NED-748 L on enclosed inquiry slip ▲

TERMINAL STAKING MACHINE applies 12 different terminals



Coil form terminals are staked to 3/16 to ⅝ in. diameter paper and nylon tubes such as used in television and radio coils by this automatic staking machine. The operator places the tube on a mandrel, presses the foot switch, and the machine automatically stakes, indexes, and ejects the finished assembly at a rate of up to 2000 per hour, each with 2 to 8 terminals. Time required to change terminal spacing is 30 sec, terminal size is 40 sec, and tube size is 2 min. Twelve different terminals applied by the machine are plated with a reflowed solder plate, have no raw edges, and have a shelf life of 6 months. • Berg Mfg. Corp., New Cumberland, Pa.

▲ For more details circle NED-749 L on enclosed inquiry slip ▲

24 TYPES of EQUIPMENT

This handy reference describes Lewis-Shepard's complete line of "manually-operated," "intermediate" and "all-electric" equipment. Here is everything you need for a fully-integrated materials handling system. Write today for your free copy of L-S Condensed Catalog 80-204.

L-S LEWIS-SHEPARD®
1711 Walnut Street, Watertown 72, Mass.

▲ For more details circle NED-750 L on enclosed inquiry slip ▲

Thor

Everything you want in Air Grinders . . . *and more!*

Thor No. 5 series heavy duty air grinders. Safest grinders ever built. 100% increase in power at no increase in weight. Remove far more metal in far less time. Positive safety control, in addition to standard governor, absolutely prevents "run-away" tools. If governor fails, air supply is cut off. Weight 10 lbs. Grip, lever or butterfly throttle. 4,500 and 6,000 r.p.m. grinding speeds.

Thor has a complete range of air grinder sizes and models. There's a Thor grinder to fit any metal removing or finishing problem. Your Thor factory representative or distributor will demonstrate. Thor Power Tool Company, Aurora, Illinois. Branches in all principal cities.

▲ For more details circle NED-751 L on enclosed inquiry slip ▲

SOUTHWEST
"Monoball"
SELF-ALIGNING BEARINGS

CHARACTERISTICS

	ANALYSIS	RECOMMENDED USE
1	Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2	Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3	Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.
4	"Dyflon"® Plastic Alloy Inserts. CRES Ball and Race. Chrome Alloy Steels.	For types operating under rotational, high radial loads and long cycle life where lubrication is impossible.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6". Dia. Our engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. Write for Engineering Manual No. 551. Address Dept. NED-60

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA

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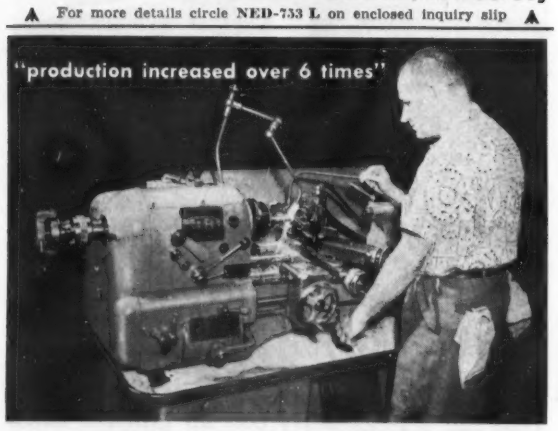
For the finest in friction, rubber or plastic tape, always look to ACCURATE . . . suppliers of "your best buy in tape."

Non-raveling
Straight tearing
High tensile strength
Strong adhesion
Highly insulating

ACCURATE TAPE
FRICTION ··· RUBBER ··· PLASTIC
ACCURATE MANUFACTURING CO.
Garfield, New Jersey

▲ For more details circle NED-753 L on enclosed inquiry slip ▲



HERE'S PROOF OF PERFORMANCE

"Our Clausing Hydraulic Profiling Lathe increased production of some stainless steel parts as much as 6 times. It's a rugged lathe for its size . . . dependably accurate, easy to set up and operate. And, you just can't beat it for the money."

Valley Machine Products, Elkhart, Indiana

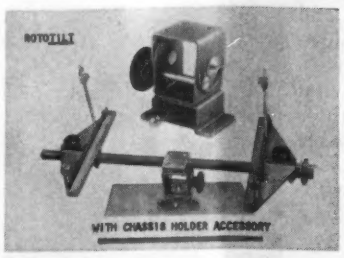
The new Clausing-Colchester profiling lathes are two machines in one, providing automatic duplication *plus* the versatility of a standard geared-head lathe. You can machine multiple diameters, tapers, 90° shoulders, bevels, radii, grooves, chamfers and undercuts to the same accuracy as the template – saving time, money, and eliminating rejects. Moving the hydraulic control lever engages tool with work or withdraws it for standard lathe operations. 13", 15" and 17" swing. Prices start at $3890.

Write for FREE LITERATURE

CLAUSING
CLAUSING DIVISION
ATLAS PRESS COMPANY
11-115 N. PITCHER ST., Kalamazoo, Mich.

▲ For more details circle NED-754 L on enclosed inquiry slip ▲

WORK POSITIONER
holds chassis and bench assemblies



Work can be held at any practical angle in the Rototilt work positioner for performing many operations. Designed for handling chassis and bench assemblies, it tilts through 135 degrees and rotates 360 degrees. Tilt and rotation are independently controlled, and the former locks securely under torque loads up to 300 lb-in. Five-hole top pattern affords versatility for mounting accessories and fixtures. Unit can be mounted on work benches, conveyor lines, or machines. Height is 4 in., width 3¾ in., depth 3¾ in., and all parts are cadmium plated. Price is $9.85. • **Technical Devices Co.**, 11242 Playa Court, Culver City, Calif.

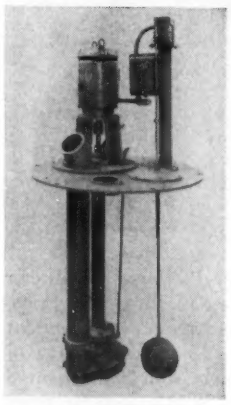
▲ For more details circle NED-755 L on enclosed inquiry slip ▲

MINIATURE THIN RESISTORS
in 10, 15, and 20-w sizes

Miniature Thin wirewound, vitreous enameled resistors for limited space applications are available in 10, 15, and 20-w sizes and have high heat dissipation. Cores are only ⅛ in. thick and, in the 10-w unit, only ¾ in. long. Even heat distribution minimizes hot spots, and heat is conducted directly to chassis or mounting surface. Bracket ends terminate in hollow studs for compact stacking by means of bolts passed through the studs. Miniatures are also available with the Dividohm adjustable taps for intermediate resistance values. • **Ohmite Mfg. Co.**, 3609 Howard St., Skokie, Ill.

▲ For more details circle NED-756 L on enclosed inquiry slip ▲

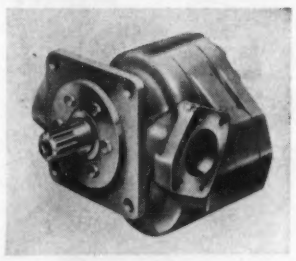
VERTICAL CENTRIFUGAL PUMPS
handle solids in liquid suspension



Nonclogging impellers that handle large solids and stringy materials are used in these single and duplex vertical centrifugal pumps, suited for disposal of sewage, industrial waste, and solids in liquid suspension. Capacities range from 50 to 600 gpm with discharge heads up to 75 ft. A suspended type for pit depths to 17 ft and submersible models for deep settings and noiseless operation are available. Bronze and stainless steel models have heavy duty sealed thrust bearings independent of motor bearings, adjustment for raising or lowering the shaft, and flexible coupling between motor and pump shafts. • **Walter H. Eagan Co.**, 2336 Fairmount Ave., Philadelphia 30, Pa.

▲ For more details circle NED-757 L on enclosed inquiry slip ▲

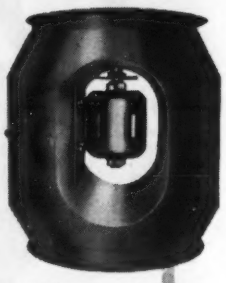
GEAR PUMPS
made in 72, 92, 112 gpm ratings



Hydreco 3600A Series of gear pumps can be operated on most applications at speeds up to 2000 rpm and at system pressures to 1500 psi. Capacity ratings are 72, 92, and 112 gpm at 1200 rpm and 0 psi. Pressure balancing of internal parts maintains controlled clearances, assures high volumetric efficiency, and minimizes frictional losses. Pumps are supplied for clockwise or counterclockwise rotation with several types of drive shafts and four-bolt flange or standard foot mounting. Applications include earthmoving machinery, materials handling vehicles, or similar mobile equipment. • **New York Air Brake Co.**, Hydreco Div., 9000 E. Michigan Ave., Kalamazoo, Mich.

▲ For more details circle NED-758 L on enclosed inquiry slip ▲

DRAFT TAILORED TO YOUR BOILER RATING



DeBothezat Induced Draft Bifurcator® Fans are *certified* to provide sufficient draft based on the boiler manufacturer's maximum rating and to handle the products of combustion. To meet your varying draft requirements, DeBothezat Fan speeds can be adjusted from full to half speed. Installed in breeching inside or in stack outside, fumes are bypassed around the motor chamber. Direct, motor-driven fan eliminates troublesome fan belts. Available for high pressure boilers delivering up to 60,000 lbs. of steam per hour and low pressure boilers delivering up to 190,000 EDR. Write Dept. NED-1160 for detailed bulletin.

11-step controller for single phase motors. 9-step model for 3-phase motors also available.

De Bothezat® FANS
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

▲ For more details circle NED-759 L on enclosed inquiry slip ▲

Save power! Handle many jobs with smaller model than before!

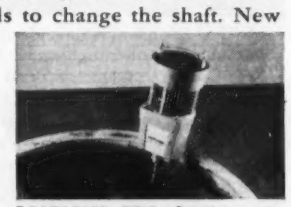
You get more work out of these all-new LIGHTNIN propeller-type mixers.

They'll handle bigger batches, heavier materials, or do the job faster—*without using more power.*

Often a smaller, lower-cost model will do the job you want done—*on less power than you've been using.*

In normal use, you won't have to lubricate these mixers for *five years.* Overloads can't hurt the gear drive. The chemical plant motor is standard, at no extra cost. And you don't need three hands to change the shaft. New quick-acting chuck locks it tight when you turn one screw.

They're ready—in models for open or closed tanks—in eight sizes from ¼ to 3 hp, gear drive or direct drive. Ask your LIGHTNIN Mixer representative for details. Or write us for descriptive Bulletin B-521.

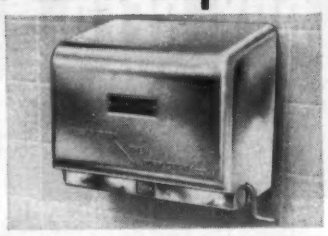


PORTABLES, TOO. Simple, quick-acting shaft chuck is always above liquid level. New indexing makes it a snap to set mixer at the correct angle. In nine sizes, ⅛ to 3 hp, gear drive or direct drive. Request Bulletin B-520.

Lightnin® Mixers
MIXCO fluid mixing specialists
MIXING EQUIPMENT Co., Inc., 165-m Mt. Read Blvd., Rochester 3, N. Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.

▲ For more details circle NED-760 L on enclosed inquiry slip ▲

NOW—the first polished aluminum towel dispenser



"It'll look this good months from now"

The new look is polished aluminum — a brand new Turn-Towl cabinet that takes water and wear without showing it. Intensive two-year tests prove:

- **Anodized permanent aluminum finish can't rust, won't wear or chip**
- **Cabinet is easy to clean, leaves no fingermarks**

Your nearest Mosinee Turn-Towl distributor has the new aluminum cabinet now. Write for his name.

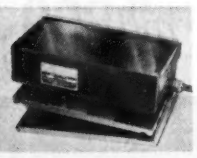
Mosinee Turn-Towl cabinets are leased free for use with Mosinee towels

MOSINEE Sulphate Towels
BAY WEST PAPER CO.
1084 West Mason Street
GREEN BAY • WISCONSIN
Subsidiary of Mosinee Paper Mills Co

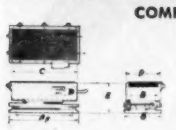
▲ For more details circle **NED-761 L** on enclosed inquiry slip ▲

SINE CHUCKS... SINE PLATES...

electro-magnetic, permanent magnet

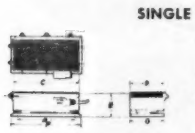


COMPOUND ANGLE SINE CHUCK



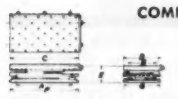
MODEL	(SINE) A	(SINE) B	C	D	E	F	G	PRICE
ELECTRO-MAGNETIC								
DA-5	5.000	5.000	6½	6	5 13/16	7¼	6½	$ 495.00
DA-10	10.000	5.000	11½	6	5 13/16	12¼	6½	650.00
DA-1010	10.000	10.000	11½	10	5 13/16	12¼	10½	1300.00
DA-20	20.000	5.000	21½	6	5 13/16	22¼	6½	1750.00
PERMANENT MAGNET								
DP-5	5.000	5.000	6	6	5 1/16	7¼	6½	495.00
DP-10	10.000	5.000	12	6	5 9/16	12¼	6½	650.00

SINGLE ANGLE SINE CHUCK



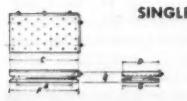
MODEL	(SINE) A	C	D	E	F	G	PRICE
ELECTRO-MAGNETIC							
SA-5	5.000	6½	6	4½	7¼	6½	$340.00
SA-10	10.000	11½	6	4⅝	12¼	6½	430.00
SA-1010	10.000	11½	10	4⅝	12¼	10½	850.00
SA-20	20.000	21½	6	4⅝	22¼	6½	1250.00
PERMANENT MAGNETIC							
SP-5	5.000	6	6	3¾	7¼	6½	340.00
SP-10	10.000	12	6	3⅞	12¼	6½	430.00

COMPOUND ANGLE SINE PLATE



MODEL	(SINE) A	(SINE) B	C	D	E	F	G	PRICE
DA-5P	5.000	5.000	6½	6½	3 7/16	7¼	6½	$ 430.00
DA-10P	10.000	5.000	11½	6½	3 7/16	12¼	6½	595.00
DA-1010P	10.000	10.000	11½	11	3 7/16	12¼	11	1050.00
DA-20P	20.000	5.000	21½	6½	3 7/16	22¼	10½	1350.00

SINGLE ANGLE SINE PLATE



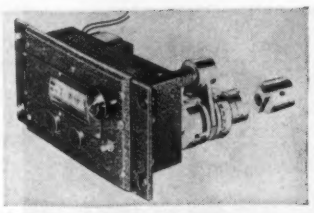
MODEL	(SINE) A	C	D	E	F	G	PRICE
SA-5P	5.000	6½	6½	2¼	7¼	6½	$280.00
SA-10P	10.000	11½	6½	2¼	7¼	6½	380.00
SA-1010P	10.000	11½	11	2¼	12¼	11	750.00
SA-20P	20.000	21½	6½	2¼	22¼	6½	920.00

Order now for prompt delivery

MAGNA-LOCK INC., Big Rapids, Mich.

▲ For more details circle **NED-762 L** on enclosed inquiry slip ▲

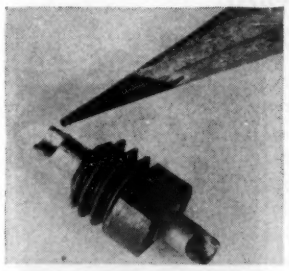
DIGITAL POSITION INDICATOR
dial has built-in illumination



Panel mounted, high-speed digital position indicator will show roll spacing on steel or brass rolling machinery, or tool position on machine tools in poorly lighted areas. Soft, glareless illumination of the white dial figures is provided by two front-replaceable 24-v ac bulbs. Unit has ball bearings and high speed nylon wheels and pinions, and counts at rate of 15,000 per minute with standard 10:1 ratio. Other ratios can be specified. Counter is driven through selsyns by motion of lead screw, and indicates position of the roll on the tool. It measures and reads to 0.001 or 0.0001 in. Magnifying lens enlarges figures to ½ in. or more. • **Durant Mfg. Co.**, 1922 N. Buffum St., Milwaukee 1, Wis.

▲ For more details circle **NED-764 L** on enclosed inquiry slip ▲

FEED-THROUGH TERMINAL
secures directly to panels



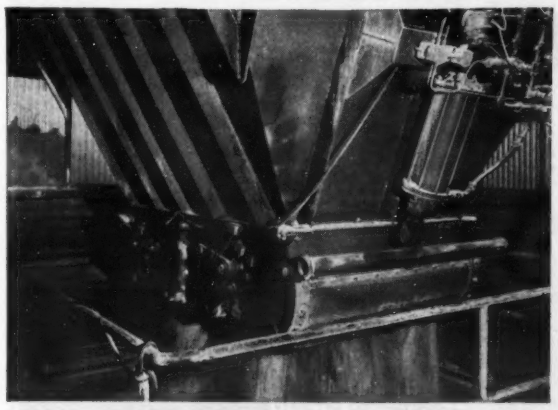
Melamine or diallyl phthalate body materials are available in No. 3FT3 feed-through terminal which secures directly to panel assemblies by means of an integrally molded threaded body. Flats facilitate insertion of threads into an assembly with automatic or manual coupling drive. Threads are ¼-in. 24 NA-2A. The tin plated brass rod has oriented, burr-free, and contoured solder pot flats at each end. • **Whitso, Inc.**, Dept. ND-5, 9330 Byron St., Schiller Park, Ill.

▲ For more details circle **NED-765 L** on enclosed inquiry slip ▲

STORAGE SHELF CONVEYOR
plastic rollers set in steel channel

Designed for low cost live storage, Rolla-Trak light duty roller conveyor provides for gravity feeding of products on industrial storage shelves. High density polyethylene rollers set in self-lubricating Galvanite steel channels assure gravity flow. Wheel spacing is on 1½-in. centers. Up to 80-lb loads feed down long runways at low slope angles without jarring. Installations permit back-of-rack loading, making possible automatic stock rotation on a first-in first-out basis. • **North American Equipment Co.**, 200 Keen St., Paterson, N. J.

▲ For more details circle **NED-766 L** on enclosed inquiry slip ▲



Jeffrey BIN VALVES...
Manually or Power-Operated

The quick operating clam shell bin valve is available in standard sizes with openings from 12" x 12" up to 24" x 48". Jeffrey also offers single gate, side discharge, and rotary types for various services.

Bin valves can be directly connected to a lever or through gears for easier manual operation, or power-operated. For recommendations and prices, write The Jeffrey Manufacturing Company, 952 North Fourth St., Columbus 16, Ohio.

JEFFREY

CONVEYING • PROCESSING • MINING EQUIPMENT...TRANSMISSION MACHINERY...CONTRACT MANUFACTURING

▲ For more details circle **NED-767 L** on enclosed inquiry slip ▲

DAY DUST CONTROL NEWS

Free! 9 informative dust control equipment bulletins

BULLETIN G-579 — Describes the DAY Type "RJ" filter. An all purpose, versatile unit. Bulletin gives operating features, dimensions and specifications.
BULLETIN 573 — Dual-Clone dust separators — noted for their low resistance and high cleaning efficiency. Easy to install, no maintenance, no moving parts.
BULLETIN 576 — "HV" heavy duty dust separator. Rugged construction and lower initial cost than many light gauge galvanized type cyclones.
BULLETIN F-75 — Reverse Jet Dust Filter Facts. Complete with specifications, typical equipment layouts, capacity and performance tables for DAY type "AC" filter.
BULLETIN N-578 — Gives complete information about Style "A" rotary valves. Construction features, specifications, dimensions and applications.
"SCHLITZ DEFEATS DUST" — FOOD ENGINEERING magazine reprint describes all out dust control for 3½ million bushel Schlitz grain elevator. Request Bulletin "Schlitz Defeats Dust."
"EFFICIENT DUST SNATCHERS" — Bulletin describes DAY's part in providing maximum safety and good housekeeping for starch packing building of large food processor.
BULLETIN 510 — DAY Unit Dust Collectors. Complete, low cost unit designed for plants or applications where central dust control systems are not practical.
BULLETIN I-585 — Industrial Fans. Complete with helpful selection charts, capacity tables, dimensions and specifications. Information on special types and arrangements included.

The DAY Company

Sold in UNITED STATES by
The DAY SALES Company
866 Third Avenue N.E., Minneapolis 13, Minn.
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You can save time when planning and save money when buying if you'll send for these DAY dust control bulletins. Each contains valuable information about dust control equipment and systems. Here's general information plus useful technical data and specifications. Ask for any bulletin which interests you or write for them all — they're free. Use this magazine's reader service card or write direct toDAY.

EQUIPMENT ONLY OR A COMPLETE SYSTEM

▲ For more details circle **NED-763 L** on enclosed inquiry slip ▲

high output...minimum effort
SET NEW WORK STANDARDS

For work in the 15-60 ton range, here's your press brake: Niagara Inboard Drive Series IB. Bends 3/16" material up to 6', and lighter gages to 14'.

Nothing like it. Has **everything**... to pay off in bigger production profits for you!

EVERYTHING'S INBOARD: Motor, belts, flywheel, clutch, brake, gears... yes, even connections, pitmans and ram adjustment mechanism... yet all accessible. Nothing protrudes.

SMOOTH, SENSITIVE ACTION: Ram can be micro-jogged smoothly, softly to a layout line... even through the work at full capacity, or stopped on a dime! Die setting is fast, easy.

RUGGED TO THE CORE: One-piece, welded steel frame with integral, wrap-around crown and extra deep, solid steel plate bed. Long lasting, laminated, non-metallic ways.

UNIFORMLY APPLIED POWER: Center drive for accurate work and die protection.

POWER CLUTCH, BRAKE & TREADLE: For greater production and less operator fatigue; or **manual clutch, brake & treadle** for low initial cost and quick, smooth response.

MUCH MORE, TOO: Adjustable speed drive, power or manual ram adjustment, front mounted control buttons, rocker type end guide bearings, centralized pressure lubrication, wide selection of gages, and numerous other features at your selection.

HERE'S THE WHOLE STORY: Wrapped up in new 12-page Bulletin 90... yours for the asking.

Streamlined, inboard drive
NIAGARA
PRESS BRAKES
NIAGARA MACHINE & TOOL WORKS, BUFFALO 11, N.Y.
District Offices and Distributors Everywhere

▲ For more details circle **NED-768 L** on enclosed inquiry slip ▲

GAS-ACTUATED SENSAIRE* TRANSMITTER

Low cost temperature measurement is now available for those applications where mercury actuation is not acceptable. The 202TG is a force-balance type transmitter, compact, dependable, with simplified adjustments, excellent repeatability.

Three range spans: 100°F., within limits of minus 400° to plus 300°F; 200° and 400°F., within limits of minus 400° to +1,000°F.

Calibration accuracy within 1% of range span below 550°F. 1½% above 550°. Interchangeable, all-welded thermal system. Bimetal case compensation. Measures only 7¾" x 4¾" x 4½". Mounts in any position. Write for **Bulletin 98293.**

Taylor Instruments Companies, Rochester, N.Y., and Toronto, Ont.

*Trade-Mark

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

▲ For more details circle **NED-769 L** on enclosed inquiry slip ▲

TAPER-LOCK
BUSHINGS WITH WELD-ON HUBS

NOTHING ELSE LIKE IT!

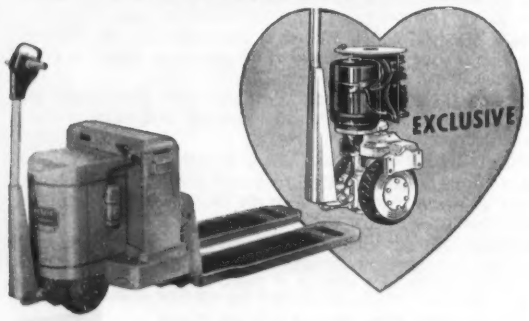
FOR your sprockets, gears, clutches, motors, impellers—for wheels of all kinds where service conditions are *really rugged*—there is nothing like TAPER-LOCK. This famous patented bushing—supplied for your use with matching TAPER-LOCK Weld-on Hub—gives you an easy-mounting, true-running unit that locks to the shaft with firmness equivalent to a shrunk-on fit. Shaft sizes ½" to 10".
WRITE for special bulletin.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

▲ For more details circle **NED-770 L** on enclosed inquiry slip ▲

HEART OF THE Hydro*lectric*
THE DYNA-DUAL POWER UNIT



Compare the Hydrolectric features with any other "Driver Lead" Lift Truck. The Hydrolectric quality of construction merits your inquiry. Two driving wheels instead of one — 50% easier steering — ease of maintenance.

NOTE: The Dyna-Dual Power Unit is interchangeable on all models.

A TRUCK FOR EVERY PURPOSE AND MATERIAL

▲ For more details circle **NED-771 L** on enclosed inquiry slip ▲

FIRE DETECTING TUBE
senses ultraviolet radiation

The U-V Detector, an electronic tube capable of detecting fire by sensing its ultraviolet radiation, is smaller than a golf ball and is insensitive to direct sunlight, normal illumination enclosed in glass, and cosmic and nuclear radiation. Tube responds rapidly in fire detection and, as a flame-out detector, can be mounted at a small opening of any fire box. It sends a signal to actuate a visual or audible alarm at a remote location. As a communications device, it picks up invisible ultraviolet ray signals. It also detects gas and smoke and the density of liquids or air. Having a 1⅛-in. diameter and 1¼-in. length, the device is alternating-current operated within an ambient range of −75 to 400° F. • **McGraw-Edison Co.,** Thomas A. Edison Industries Div., 61 Alden St., West Orange, N. J.

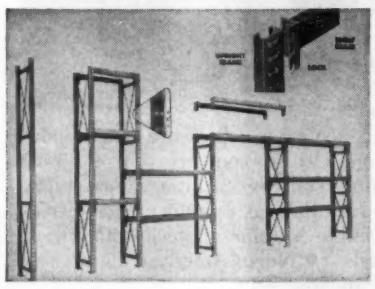
▲ For more details circle **NED-772 L** on enclosed inquiry slip ▲

TEMPERATURE CONTROL
has −200 to 2000° F range

Low-cost potentiometer type temperature controller for industrial operations employs a thermocouple heat sensor which is inserted into the medium to be controlled. Heart of the system is a transistorized amplifier-relay panel. Adjustments are made easily by turning a dial on the panel cover. Temperatures from −200 to 2000° F can be controlled to within 4°. Built-in time proportioning unit prevents "temperature over-shoot." Equivalent Centigrade scale controller is also available. List price is $150. • **Minneapolis-Honeywell Regulator Co.,** Control Devices Div., 2753 Fourth Ave. S., Minneapolis 8, Minn.

▲ For more details circle **NED-773 L** on enclosed inquiry slip ▲

ADJUSTABLE STORAGE RACK
shelves located on 3-in. centers



An upright, welded frame structure and shelf beams installed in pairs are basic parts of Series 75 adjustable storage rack. The shelf beams lock in place by hand to the desired opening. Upright frames, in any height and depth required, include sway bracing and bearing plates. Shelf beams in many sizes and capacities can be located on 3-in. centers from the floor to the top. High strength steel locks welded to the beams insure stability and safety. Accessories for holding drums or barrels, wood shelving, and skid leg supports are available. • **Palmer-Shile Co.,** 16015 Fullerton St., Detroit 27, Mich.

▲ For more details circle **NED-774 L** on enclosed inquiry slip ▲

PLATING BARREL
"fin" design boosts efficiency

Up to 48 per cent greater plating efficiency is reported for this all-plastic plating barrel which features an unusual "fin" design and is offered in a range of sizes, materials, and models. Increase in plating thickness is achieved through reduced electrical resistance and more thorough agitation of plating solution. The oblique barrel is made in polypropylene as well as a special olefin copolymer. It is interchangeable with standard barrels on automatic plating machines; has reinforced construction; and resists chemicals, impact, abrasion, and heat. Units are also available in high temperature Plexiglas or other materials on special order. • **Imperial Industries, Inc.,** 4436 Walker Ave., Wayne, Mich.

▲ For more details circle **NED-775 L** on enclosed inquiry slip ▲

New! Dunco DRY REED RELAYS

1, 2, 4, 12 and 20 pole types

Dunco Dry Reed Relays provide economical and exceptionally fast low level and light load switching for computer and data handling applications. Life is on the order of hundreds of million operations.

Encapsulated units provide practically any combination of normally-open (Form A) and normally-closed (Form B) contact arrangements. Contacts are completely unaffected by atmospheric contamination. Break-make action can be furnished to insure non-overlapping of contact closures. Multi-coil arrangements for logic elements are available. Relays mount in any position.

Write for Dunco Reed Relay Bulletin to Struthers-Dunn, Inc., Pitman, N. J.

WORLD'S LARGEST RELAY ASSORTMENT

STRUTHERS-DUNN S-D

Sales Engineering offices in: Atlanta • Boston • Buffalo • Charlotte • Chicago Cincinnati • Cleveland • Dallas • Dayton • Denver • Detroit • High Point Kansas City • Los Angeles • Montreal • New York • Orlando • Pittsburgh St. Louis • San Carlos • Seattle • Toronto • Export: Langguth-Olson Co., New York

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roll it in . . . . PLAY
roll it out . . . TUCK IT AWAY

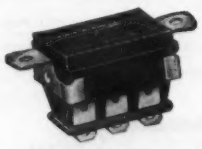
Any room can become a game room in seconds with the Sico "Tuck-Away." It rolls and unfolds quickly, safely. Exclusive "Floating Fold" carries entire weight of the table during folding and unfolding. Full regulation size (USTTA approved)—yet folds to only 18" x 60" for storing. Its unitized steel frame is fully guaranteed for 10 years. The "Tuck-Away" provides an efficient solution to the need for leisure time relaxation—in industry, hotels, schools, hospitals, and other institutions. Get complete information on the "Tuck-Away" by writing.

SICO MANUFACTURING COMPANY, INC.
5215 Eden Ave. So., Minneapolis, Minn., Dept. 1105.

▲ For more details circle **NED-777 L** on enclosed inquiry slip ▲

FOR PUBLIC ADDRESS, RADIO, and kindred fields, specify JONES 400 SERIES PLUGS AND SOCKETS of *proven* quality!

S-406-AB



P-406-CCT

Double Contact Area

Phosphor bronze knife-switch socket contacts engage both sides of flat plug contacts.

Socket contacts phosphor bronze, cadmium plated. Plug contacts hard brass, cadmium plated. Insulation molded bakelite. Plugs and sockets polarized. Steel caps with baked crackle enamel. 2, 4, 6, 8, 10, 12 contacts. Cap or panel mounting.

Information on complete line, in Jones Catalog 22: Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write.

HOWARD B. JONES DIVISION
CINCH MANUFACTURING COMPANY
CHICAGO 24, ILLINOIS
DIVISION OF UNITED-CARR FASTENER CORP.

▲ For more details circle **NED-778 L** on enclosed inquiry slip ▲

LORCO® VIBRATORY FINISHING

When production demands rapid, high-volume deburring, and engineering demands micro-inch precision, you can meet *both* requirements with Lorco vibratory finishing equipment.

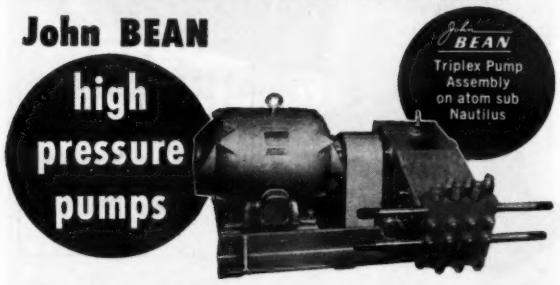
Lorco vibrators can deburr and finish parts in processing cycles of 1/5 to 1/10 the time required by other methods, effectively finishing even the recessed, shielded areas that are not reached by other methods. Sample processing service will prove Lorco results. Write for details.

LORD CHEMICAL CORP.
A majority-owned subsidiary of Wheelabrator Corp.
2068-G SOUTH QUEEN STREET, YORK, PA.

▲ For more details circle NED-779 L on enclosed inquiry slip ▲

for PRESSURES to 12,000 lbs. TEMPERATURES to 500° F.

John BEAN high pressure pumps



Rugged, compact John Bean Triplex Pumps are the answer for high pressure pumping applications, among them coolant pumping in atomic reactors. Pressures range from 1000 to 12,000 psi, fluid temperatures to 500° F. Important design features include:

- Lifetime Sapphite plungers
- "Roto-splash" drive end lubrication
- Distortion-free cast iron housings.
- Free-acting ball-type and spring loaded poppett valves, replaceable valve seats

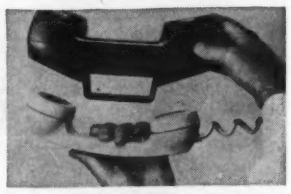
also: John Bean vertical duplex pumps — pressures to 1000 psi, temperatures to 200° F.

Send information request form — today!

John BEAN DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

▲ For more details circle NED-780 L on enclosed inquiry slip ▲

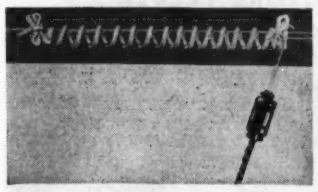
VOICE SCRAMBLER security device fits on telephone



Weighing only 27 oz and completely portable, the Duplex Model 105 scrambler security device for use on any telephone transforms ordinary speech into incoherent gibberish. Transmitted over the regular telephone circuit, the scrambled speech is returned to normal only by a second unit used on the receiving telephone. Several basic codes are offered. Unit resembles a slightly oversized telephone handset and may be carried in coat pocket or briefcase. Internal batteries furnish power for its 10-transistor circuit. A push-button-to-talk model will be available soon. • Delcon Corp., 943 Industrial Ave., Palo Alto, Calif.

▲ For more details circle NED-782 L on enclosed inquiry slip ▲

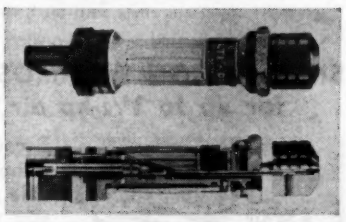
CORD-TYPE HEATER in 400 and 600° C ranges



Flexible cord-type heaters are available in 400 and 600° C temperature ranges for wrap-around heating applications. The 400° C Medium Cal-Cord made of glass fabric materials is available in 2, 3, 4, and 6-ft lengths at prices ranging from $6.50 to $15. The 600° C Super Cal-Cord, made of quartz fabric materials, comes in 2, 3, and 5-ft lengths with prices from $8 to $18. Both can be furnished for 115 or 220-v operation. An auxiliary Thermolyne stepless input controller is priced at $15.75. • Glas-Col Apparatus Co., 711 Hulman St., Terre Haute, Ind.

▲ For more details circle NED-783 L on enclosed inquiry slip ▲

POWDER-POWERED STUD DRIVER for masonry, steel, and concrete



Hazards of ricochet or fishhooking, over-penetration, and explosive spalling are reportedly eliminated when this Model DX 100-L power-piston one-blow fastening tool is used to install studs and fasteners in metal or masonry. Tool employs the combined driving effort of a heavy hammer blow and a light slow-burning blank cartridge to drive the fastener with a pushing action. Fastener starts in material without velocity, and vents release the booster pressure when fastener leaves the tool. A safety stop washer prevents over-penetration. Tool will drive a wide range of fasteners including threaded studs, drive pins, and drive rings. • Hilti, Inc., Dept. C, 73 Southfield Ave., Stamford, Conn.

▲ For more details circle NED-784 L on enclosed inquiry slip ▲

AUTOMATIC HOPPER DISCHARGE VALVES

Buell-Norblo, with combined experience of more than 75 years of design and manufacture of complete dust collection systems, can naturally provide superior dust discharge valves. Designed for automatic intermittent discharge or continuous withdrawal of material — all types provide protection against back flow or leakage.

PMF—for continuous withdrawal, impact shock of damper closing prevents hopper bridging or clogging; steady flow even with lightest materials. **COUNTERWEIGHTED**—for free-flowing material having sufficient bulk density to move adjustable counter-weight. **ROTARY**—for continuous withdrawal, adaptable for speed variation.

Literature on sizes and specifications available. Buell Engineering Company, Inc., Dept. 23-K, 123 William Street, New York 38, N. Y., Northern Blower Division, 6435 Barberton Avenue, Cleveland, Ohio. ■ Electric Precipitators • Cyclones • Bag Collectors • Combination Systems • Fans • Classifiers • Discharge Valves

buell Norblo

▲ For more details circle NED-785 L on enclosed inquiry slip ▲

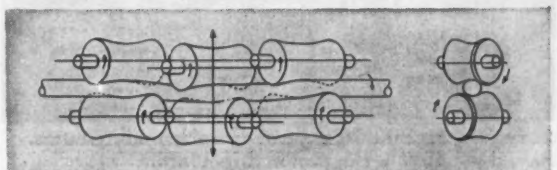
INTERESTED IN LOWER COST TUBE STRAIGHTENING?

. . . cut costs, delivery bottlenecks and rejects with quick, versatile Mack-Hemp rotary tube straighteners

Tube producers and processors alike are finding the Mack-Hemp Rotary Tube Straightener the practical answer to premium end-to-end tube straightness and roundness. Mack-Hemp straighteners will handle tubes of any alloy . . . in any O. D. from 0.080 to 16". Speeds up to 800 fpm.

All six rolls (see diagram below) are driven. In addition, the rolls are fully adjustable to suit tube diameter, amount of straightening bend required, and correct contact grip on the tube.

Because all rolls are driven, no interpass guides are required. Since guides limit production speed and are a major source of surface scratches—the Mack-Hemp Guideless Rotary Tube Straightener not only operates faster but also eliminates guide marks. Its end-to-end straightening, with unmarked tube surface, cuts inspection and customer rejects.



NO GUIDES NEEDED with Mack-Hemp straighteners. Drawing shows how identically-contoured opposed cross rolls —all driven—work. Tube revolves through the rolls spirally, thus all parts of tube in every plane are bend-straightened. Eliminating guides makes possible faster operation and ends major source of surface scratches.

For more information on specifications, dimensions, design data and typical examples of how leading tube producers and processors are using Mack-Hemp straighteners, write for 24-page bulletin "How to Straighten Pipe and Tube"

MACKINTOSH-HEMPHILL
Division of
E. W. BLISS COMPANY
901 Bingham Street • Pittsburgh 3, Pa.

▲ For more details circle NED-786 L on enclosed inquiry slip ▲

Westinghouse offers completely new concept in ultrasonic cleaning equipment

Two recent technological developments—our exclusive Trinistor* solid state circuitry and the new space-laminated magnetostrictive type Magnopak* transducer—have enabled Westinghouse to develop a complete line of ultrasonic cleaning systems which are much smaller and clearly more efficient than the competitive systems now available. In addition, these new systems provide unmatched reliability, sturdiness, and cleaning performance.

Literature is available which describes the various features of these new Westinghouse systems, and we'll be glad to send it to you if you would like a copy. Or perhaps you would prefer to discuss your particular cleaning problem with a Westinghouse ultrasonics engineer. In either event, just call, wire, or write to Mr. Albert Valente, Industrial Electronics Dept., Westinghouse Electric Corporation, 2519 Wilkens Ave., Baltimore 3, Md. *You can be sure . . . if it's Westinghouse.*

Westinghouse

At Right:

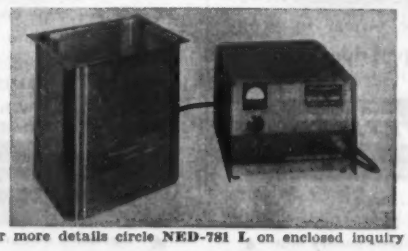
SMALL TABLE-TOP CLEANING SYSTEMS are especially useful for cleaning bearings and other complex mechanical assemblies. Here are small units packed with power, yet available at low cost.

Model WE-20. 3 watt intensity per square inch, 5 gal. tank and generator with 150 watt output.

$995

Model WEHH-10. 6-11 watt intensity per square inch, 1½ gal. tank and generator with 500 watt output.

$1250



Above:

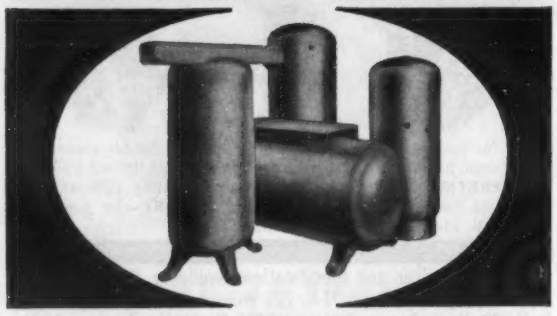
NEW PORTABLE CLEANING SYSTEM features generator, transducer, tank and controls all mounted in a single compact roll-about console. Model pictured here has 6-11 watt intensity per square inch, 5 gal. tank and generator with 1,000 watt output. Model PM-WEHH-20.

$2690

*Registered Trade Mark J-35018

▲ For more details circle NED-781 L on enclosed inquiry slip ▲

SCAIFE AIR RECEIVERS



Scaife "Rolled-Shell" construction provides uniform strength with no weak spots or thin sections.

Highest quality is maintained through rigid tests by air, water, impact, and X-ray. For full information on our complete line of pressure vessels write to:

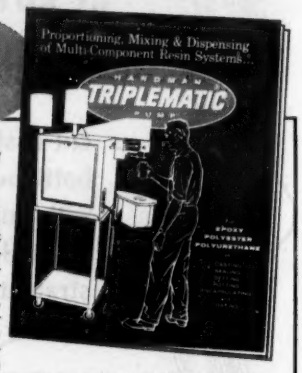
Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

▲ For more details circle NED-787 L on enclosed inquiry slip ▲

METERING, MIXING AND DISPENSING Multi-Component Resin Systems?

SEND FOR THIS BOOK



...designed to simplify pump selection and solve your production problems.

The problem of automatic metering, mixing and dispensing two and three-part resin compounds, including epoxy, polyester, resorcinol and polyurethane, is a serious one facing most manufacturers engaged in such production operations as: bonding, coating, casting, sealing, potting, encapsulating and impregnating.

This informative booklet features a series of typical manufacturers' questions and Hardman answers that prove how these seemingly difficult problems can be solved simply and economically. Whether your needs are simple or complex, this new booklet will help you select the right pump for your job!

Write today, on your letterhead, to:

H. V. HARDMAN CO., INC.
587 CORTLAND STREET, BELLEVILLE 9, NEW JERSEY
PHONE: PLYMOUTH 9-1242

▲ For more details circle NED-788 L on enclosed inquiry slip ▲

R-K AUTOMATIC TRANSFER PUTS NEW PROFITS IN OVERHEAD HANDLING

Saved — $6,000.00 a year on rack maintenance.
Saved — 40% reduction in direct labor.
Saved — large area formerly used for storage.
Gained — 70% increase in plating production.

That's the profit-boosting record of benefits realized by a large midwestern plating plant, after modernizing production with an overhead conveyor system engineered by Rapistan-Keystone, featuring an unusual automatic transfer.

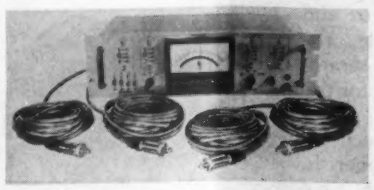
Circle No. 181 on the Reader Service Card for this new bulletin illustrating cost-cutting applications of Rapistan-Keystone overhead conveyor.

Rapistan-KEYSTONE, INC.

755 Rapistan Building, Grand Rapids 2, Michigan

▲ For more details circle NED-789 L on enclosed inquiry slip ▲

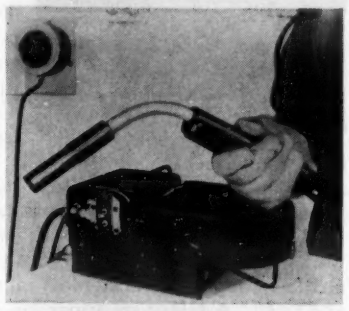
PRESSURE METER measures static, dynamic pressures



Measurement and read-out of individual pressures, pressure differentials, or any arithmetic combination of up to four static or dynamic pressures is function of the Model 689 dynamic pressure meter. Consisting of up to four pressure sensors and an electronic read-out unit, it provides a suitable signal to an output recorder. Separate plug-in units adapt any strain gage type pressure sensor to the instrument. Ranges of 0-300, 0-1000, and 0-3000 psi may be selected. Instrument is available as a rack mounted device or as a portable unit with carrying handle. • **American Measurement & Control, Inc.**, 240 Calvary St., Waltham 54, Mass.

▲ For more details circle NED-790 L on enclosed inquiry slip ▲

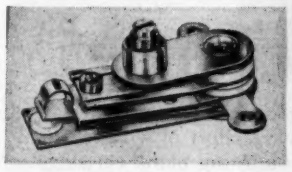
WELDING GUN & WIRE FEEDER for gas shielded metal-arc process



Applications requiring high duty cycle and a minimum of down time are served by the Model AH60-B air - cooled push type welding gun and wire feeder. It is usable with the Aircomatic gas shielded metal - arc welding process, buried arc welding, and Sprayarc welding using carbon dioxide as a shielding gas. Model AHF-D wire feeder includes a remote speed control with 15 ft of service cord for wire feed speed adjustment up to 600 ipm. It operates on 115-v, 60-cycle ac. • **Air Reduction Sales Co.**, 150 E. 42nd St., New York 17, N. Y.

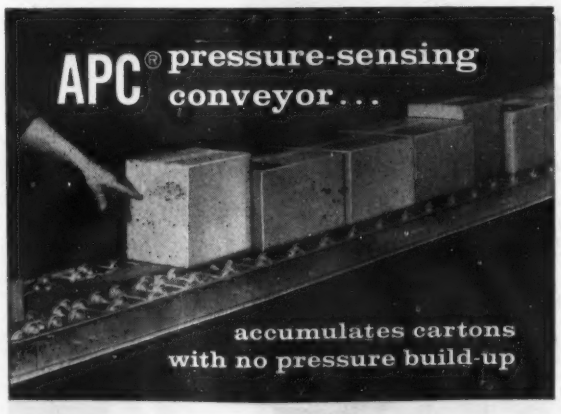
▲ For more details circle NED-791 L on enclosed inquiry slip ▲

SNAP-ACTION THERMOSTAT for up to 1½-hp air conditioners



Because of its simplicity, compact Hi-amp adjustable snap-action thermostat is easy to install in minimum space areas by stud, single hole, or nozzle mount. Screw or spade-type terminals are offered in nine different positions. Designed for room air conditioners up to 1½ hp, 60-amp locked rotor, unit is UL-approved after 100,000 cycles at 25 amp, 240 v ac. It is available in any temperature range up to 300° F and has a differential as low as 5° F. • **Pace, Inc.**, 584 Wayne St., Mansfield, Ohio.

▲ For more details circle NED-792 L on enclosed inquiry slip ▲



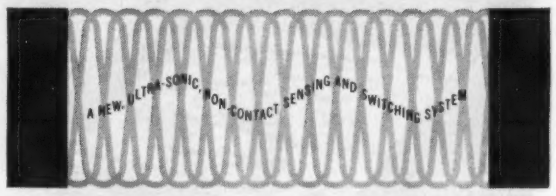
Rapistan APC (adjustable pressure) conveyor reduces damaged cartons and contents by reducing line pressure to the practical minimum. In this photo, the conveyor belt is running, but forward pressure is so low that a finger's touch can stop the entire line. The new, safe way to accumulate goods under power in processing, warehousing and shipping operations.

Write for new Bulletin 1200 Illustrating APC Conveyor.

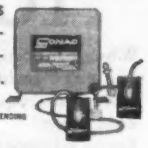
Rapistan conveying equipment

The RAPIDS-STANDARD CO., Inc.
748 Rapistan Building, Grand Rapids 2, Michigan

▲ For more details circle NED-793 L on enclosed inquiry slip ▲



SONAC* Here truly is a new dimension in automated controls! Delavan's new SONAC uses ultra-sonic energy for its "beam". This new concept offers many advantages over available sensing devices. SONAC has no lamps to burn out . . . nothing to replace . . . eliminates down time. SONAC is unaffected by vibration, dust, industrial contamination or ambient light. SONAC will sense ferrous and non ferrous metals, liquids or solids, transparent or opaque materials yet requires less power than an ordinary flashlight. These are just a few of SONAC's advantages.



*Sonac is a trade mark of the Delavan Manufacturing Co. PATENTS PENDING

Send for a complete descriptive booklet. There's no cost or obligation.

DELAVAN Manufacturing Company
WEST DES MOINES, IOWA

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New pneumatic strapping tools . . . increase output by 50%

Here's the ultimate in pneumatic stretchers. Timed in field tests these tools were able to cut strapping time up to 50%. Amongst their many features, the new tools offer adjustable controlled tension . . . are able to take various sizes of strapping . . . will operate well on a small surface. Full details and specifications available on request. Circle reader service card or write:

A. J. GERRARD & COMPANY / STRAPPING MATERIALS

410 East Touhy Avenue • DES PLAINES, ILLINOIS

▲ For more details circle NED-795 L on enclosed inquiry slip ▲

* more design flexibility
* greater structural strength
* superior galvanized finish

Save time, cut materials and construction costs with Rapisteel by Rapistan. New design builds stronger structures faster — lets you erect storage racks, work benches, mezzanines, dollies, electrical panel boards — any construction idea you have. Completely re-usable, lifetime resistance to corrosion.

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Rapistan® slotted angle

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Dealer Products
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Grand Rapids 2, Michigan

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WILTON

Isn't it nice to know that when you buy Wilton Vises:

1/ They'll never need oiling! (Thanks to Wilton's lifetime lubrication)

2/ They're the most rugged! (Even have more pounds of malleable iron than most ordinary vises of grey iron)

3/ They deliver greatest locking force! (Fine machining is the secret)

To get the most vise value for every dollar always specify WILTON . because the best costs no more!

FOR FREE CATALOG ATTACH THIS AD TO YOUR LETTERHEAD AND MAIL TODAY!

NED-110

WILTON TOOL MANUFACTURING CO., INC. / 9525 Irving Park Road / Schiller Park, Illinois
CANADIAN ADDRESS: 178 NORSEMAN ST., TORONTO, ONTARIO

▲ For more details circle NED-797 L on enclosed inquiry slip ▲

Compact RIDGID®
300 Power Drive with Accessories

Portable • Fast and Easy-to-Use • Low Cost
1/8" to 2" Capacity; Power for up to 12" Geared Tools.

Here's such an amazing power package that you'll have to try it to believe it. It's built around the compact, rugged RIDGID 300 Power Drive with famous RIDGID Speed Chuck that grips tight—forward or reverse, yet sets and releases easily by hand. Cam-action rear centering device holds even long lengths centered for perfect threads every time. Sturdy No. 1206 Stand folds for easy carrying . . . is extra rigid when in use.

RIDGID No. 310 Carriage, made of strong aluminum alloy, slides smoothly on drive support arms . . . holds die head and cutter ready for instant use. Snugs up tight to chuck for close threading and cut-off.

RIDGID 535 Quick-Opening Die Head, shown here, threads ½" to 2" pipe with just 2 sets of dies . . . adjusts to size right in machine . . . no fumbling for right size threader . . . no slow back-off. All other RIDGID Machine Pipe and Bolt Die Heads can be used. Add a RIDGID No. 19 Nipple Chuck, and you can thread close nipples.

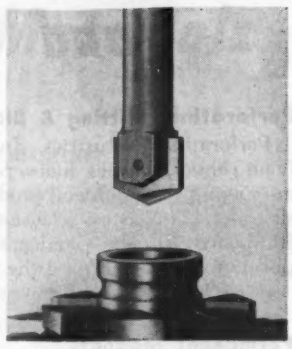
RIDGID 360 full-floating Cutter has slide action that adjusts to all pipe irregularities . . . wide rolls for straight cuts at machine speed. Capacity: ¼" to 2" pipe and conduit—⅞" rod. E-1032 wheel for 1" rod available.

See and try this time-and-work-saving RIDGID 300 group at your Supply House!

RIDGID®
The Ridge Tool Company, Elyria, Ohio, U.S.A.

▲ For more details circle NED-798 L on enclosed inquiry slip ▲

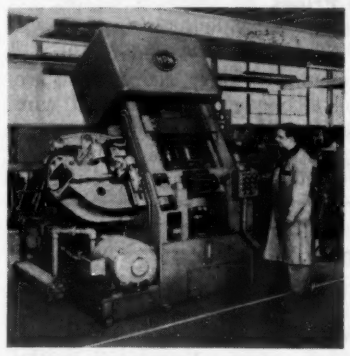
SPADE DRILLS
make easily flushed C-shaped chip



Capable of making holes from the solid in one pass, spade drills do away with the need for progressive drilling in deep holes. They form small C-shaped chips that are easily flushed from the work, minimizing damage to tool and work. A wide range of bit sizes is interchangeable in a Madison tool holder. Drills can be used in a radial drill press, turret lathe, automatic screw machine, or similar types of equipment. • **Madison Industries, Inc.**, Box 1137, Providence, R. I.

▲ For more details circle NED-799 L on enclosed inquiry slip ▲

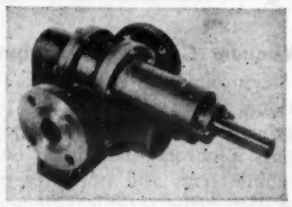
TRIPLE-ACTION PRESS
blanks, pierces with smooth edges



Most types of metal up to ¼ in. thick have edge smoothness tolerances close to those obtained by finish grinding when blanked and pierced by this triple-action hydraulic press. The blanking punch works against a bottom punch or die cushion, while a third action clamps the material firmly during the blanking stroke. Parts are automatically produced with surface accuracies within 0.0005 in. Pressures for the three synchronized actions are easily adjusted for various types of metal. An air blast automatically sweeps the finished parts through the rear of the inclined press frame. Press cycles at over 100 strokes per minute. Automatic feeding and scrap removal are available. • **Hydraulic Press Mfg. Co.**, 101 Lincoln Ave., Mt. Gilead, Ohio.

▲ For more details circle NED-800 L on enclosed inquiry slip ▲

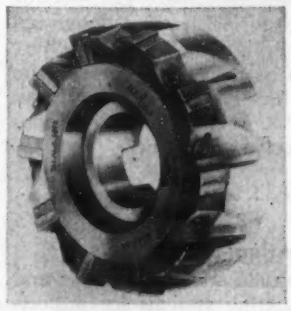
27-GPM PUMP
has threaded ports or flanges



Housings and shafts of the 900 Series Gearchem pump are Type 316 stainless steel and gears are Hastelloy C, phenolic, or polyamide (nylon) resin. Replaceable wear plates of carbon or ceramic are standard. Pump has 1½-in. ports and flows up to 27 gpm on 1000 SSU oils. Threaded ports or integrally cast 150-psi ASME flanges are options. An extra long stuffing box is provided for Teflon or other mechanical packing as required. Speeds up to 1200 rpm depend upon viscosity which may be up to 50,000 SSU at reduced speed and capacity. Maximum discharge is 150 psi. Temperature range is up to 400° F with metallic gears and 150° F with plastic gears. • **Eco Engineering Co.**, 1 New York Ave., Newark 1, N. J.

▲ For more details circle NED-801 L on enclosed inquiry slip ▲

MILLING CUTTERS
use throwaway carbide inserts



Two-piece body construction of Dex-A-Mill cutters permits insert seats to be uniformly ground to very close tolerances. The inexpensive, indexable, throwaway carbide inserts are easily locked, unlocked, indexed, or replaced on the machine with the cutter in position. Each has eight individual cutting edges. Carbide chip deflectors and large chip scoops in front of the inserts divert the chip flow away from the cutter. Right and left hand cutters are available in face and shell end mill designs with double negative rake angles and 15-degree lead angle in standard diameters from 3 to 12 in. Larger diameters can be ordered. • **Adamas Carbide Corp.**, Kenilworth, N. J.

▲ For more details circle NED-802 L on enclosed inquiry slip ▲

Edmont Case No. 584: Handling oily steel tubing, leather palm gloves became slippery and unusable in 10 shifts. Edmont recommended an extra-flexible plastic coated glove with non-slip grip (No. 404 Snorkel), which wore 12½ shifts, reducing glove costs 26.6%.

Extracoated glove replaces leather

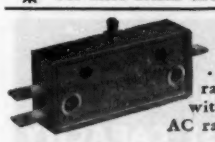
In the case above, the *job-fitted* glove gave longer, safer service because of its non-slip grip and resistance to oil and abrasion. 2-piece jersey liner, seamless palm, wing thumb and preflexed fingers assure extra flexibility, dexterity and comfort.

Free Test Offer to Listed Firms: Tell us your operation. From more than 50 types, we will recommend correct *Extra*coated gloves and send samples for on-the-job testing.

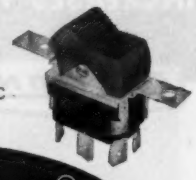
Edmont Inc., 1240 Walnut Street, Coshocton, Ohio—In Canada, write Edmont Canada Ltd., Cowansville, Quebec.

Edmont
JOB-FITTED GLOVES

▲ For more details circle NED-803 L on enclosed inquiry slip ▲

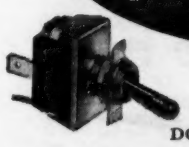


1901 SERIES MOMENTARY CONTACT SWITCHES . . . For applications requiring high ratings and small sizes. 30A, 125-250 V with 2A, 125 V DC and 2 HP, 250 V AC ratings. Choice of actuators.



0800 SERIES ROCKER SWITCHES Heavy duty in SP and DP with 20A, 125 V AC 1½ HP, 10A, 250 V AC 2 HP rating. Variety of circuits.

SPECIFY McGILL® SWITCHES



SP AND DP TOGGLE SWITCHES . . . A full line of reliable Toggle Switches, from 6 to 20 amps., with both DC and HP ratings. Choice of terminals.

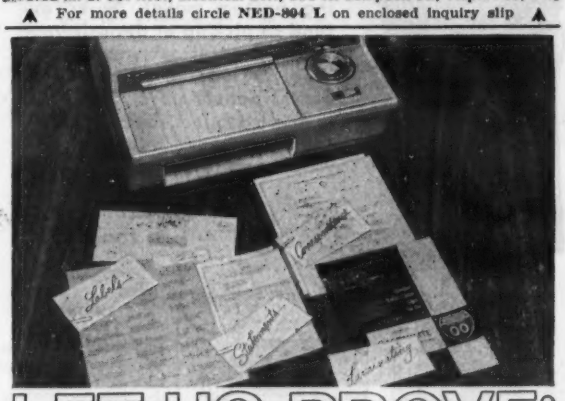
SPECIAL SWITCHES FOR EVERY APPLICATION . . . Special Switches, for actuating and controlling many types of circuit arrangements, are engineered to your specific needs.

Send for free Catalog No. 60.

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle NED-804 L on enclosed inquiry slip ▲



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City Zone State
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▲ For more details circle NED-805 L on enclosed inquiry slip ▲

TORIT

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.

Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.

Prices start at $335.

DUST COLLECTORS STOP LOSSES CAUSED BY DUST

- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT
MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

For more details circle NED-806 L on enclosed inquiry slip

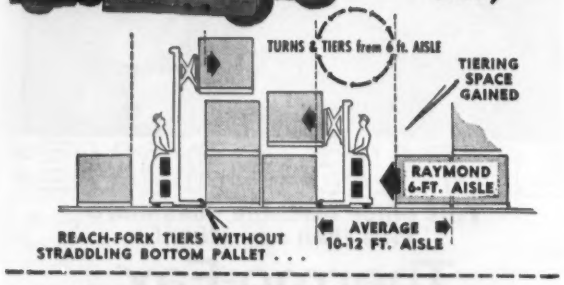
The truck with "boarding house reach"
INCREASES WAREHOUSE CAPACITY *as much as 50%*

RAYMOND

Reach-Fork
TRADE MARK
ELECTRIC TIERING TRUCK
2,000, 3,000, 4,000 lb. capacity

Why build or lease additional storage when there's space to be had right in your present warehouse? The RAYMOND Reach-Fork eliminates wasteful 10 to 12-ft. aisles . . . permits you to tier in space-saving aisles as narrow as 6 ft. No special racks or pallets required because it operates from the aisle, without straddling bottom pallet. Forks extend to pick up or deposit your load . . . retract in seconds. Ideal for loading or unloading. Stacks pallets closely on racks, in truck trailers, boxcars, bulk storage areas. Safe on elevators and low-capacity floors.

Mail coupon today



The RAYMOND CORPORATION
4132 Madison St., Greene, N.Y.

Please send Bulletin on Raymond Reach-Fork. I am interested in:

☐ 2,000 lb. cap. Reach-Fork. ☐ 4,000 lb. cap. Reach-Fork.
☐ 3,000 lb. cap. Reach-Fork. ☐ Have a representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

Career Opportunities for Product Design Engineers—Write Raymond Today!

For more details circle NED-807 L on enclosed inquiry slip

New Literature and Catalogs

Perforating, Slitting & Blanking

Perforating Industries, Inc.—Fabrics, rubber, felt, foam rubber, plastics, hides, paper, and imitation leather are among the nonmetal products which are perforated, slit, and blanked on a custom basis by this company. Illustrated 20-page Catalog 60 discusses suggested applications, materials, and the various patterns available.

For more details circle NED-808 L on enclosed inquiry slip

Permanent Magnets

Terry Sales Corp., Industrial Div.—Handy reference for selection of cast or sintered Alnico permanent magnets for various uses is provided in Catalog No. 10. Data cover magnetic and mechanical properties and tolerances relative to square, round, flat bar, and chain types.

For more details circle NED-809 L on enclosed inquiry slip

Solderless Terminal Prices

Vaco Products Co.—"Illustrated Users' Price Schedule No. 264" lets you select the solderless terminal you want by means of a picture. Under each picture are the stock number, hole diameter, stud size, and wire size. Referring to back pages, reader finds the terminal identification, quantity per pack, and the price. The 8-page schedule is punched for binder insertion.

For more details circle NED-810 L on enclosed inquiry slip

Cylinders, Valves, Drill Units

Alkon Products Corp.—24-page catalog covering line of cylinders, drill units, and valves is compiled as an easy-to-read, single reference source on company's pneumatic and hydraulic components. Introduced in the catalog is a new Series B interchangeable cylinder for air and oil service. Specifications and prices are provided.

For more details circle NED-811 L on enclosed inquiry slip

Socket Head Cap Screws

Standard Screw Co.—Dimensional data on both the present 1936 Series and the new 1960 Series socket head cap screws are presented in 12-page brochure. The new screws provide a larger wrenching area and increased bearing surface under the head which results in minimum indentation in soft metals. Separate thread length charts are also provided.

For more details circle NED-812 L on enclosed inquiry slip

Vacuum Coating & Equipment

Consolidated Vacuum Corp.—Decorative and functional vacuum coating and the equipment used in this process are subject of 28-page Bulletin 2-2. Process puts a chrome-like finish on toys, jewelry, and automobile trim and improves physical surface properties of such items as optical elements, electronic components, and base metals.

For more details circle NED-813 L on enclosed inquiry slip

Automatic Roll Feeds

Durant Tool Co.—Durant automatic roll feeds described in 6-page folder feed materials at up to 500 strokes a minute and at lineal rates to 600 ipm. Three single roll feeds and a double roll feed are described with specifications and price information. Feed accuracy is within thousandths with either friction clutch or Select-O-Matic indexer.

For more details circle NED-814 L on enclosed inquiry slip

Ballscrew Assemblies

Walter Kidde & Co., Kidde Aero-Space Div.—Kidde ballscrew assemblies, their applications, and design-operation characteristics are outlined in 8-page Brochure A-28. Assemblies can be used to actuate aircraft trim tabs, speed brakes, landing gear, steering mechanisms, and surface controls and function effectively under conditions of high heat, corrosive atmosphere, and absence of lubrication.

For more details circle NED-815 L on enclosed inquiry slip

Shipping Container Mounting Systems

Lord Mfg. Co.—Basic considerations in design and selection of elastomeric mounting systems for protecting equipment from shipping and handling damage are presented in 16-page Bulletin 716. Specific examples of mounting systems in aircraft, missile, electronic, and general industrial fields are shown. Design guide enables packaging engineers to obtain a quick approximation of drop height, deflection, fragility factors, and system natural frequency.

For more details circle NED-816 L on enclosed inquiry slip

Cleco's A-1A Reversible Screwdriver-Nut-Runner is the

BIG VALUE

in small air tools . . .

The plus value tool for assembling small precision equipment; equipment with tight working areas; for continuous production operations.

This is a tool with no torque reaction; it is absorbed by a balanced impact mechanism. This is an economical tool. Throttle valve opens automatically when screw is engaged; air consuming "free running" is eliminated. High speed motor gives fast run down, improving production. This is the tool for operator comfort. Pencil-type design, (weight: 11 oz., and length: 6¼ ins.), gives the operator complete freedom of movement, especially important on precision production jobs. Tool is muffled for quietness. Exhaust of the A-1A is directed away from the work. Power control is adjustable.

Your Cleco® representative will be happy to give you a try-out-demonstration of this versatile, powerful small tool.

CLECO AIR TOOLS
A Division of REED ROLLER BIT COMPANY
P. O. Box 2119 • Houston 1, Texas
IN CANADA:
Cleco Pneumatic Tool Company of Canada, Ltd.
927 Millwood Road, Leaside (Toronto), Ontario

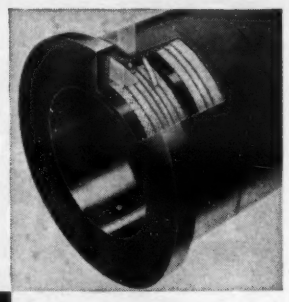
For more details circle NED-817 L on enclosed inquiry slip

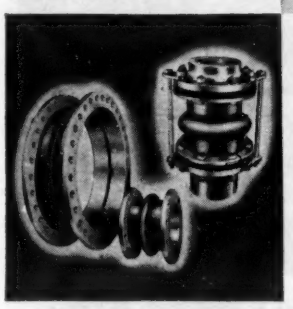
Eliminate PIPELINE CORROSION, ABRASION, NOISE, VIBRATION, EXPANSION

CONDOR FLEXIBLE RUBBER PIPE

- Flexible, Strong, Light Weight
- For Working Pressures up to 250 psi
- Lasts 3 to 10 times longer than Iron or Steel!
- Easy to install
- Available with quick coupling, safe Hydro-Lock Flange

Write for Bulletin 7152





R/M RUBBER EXPANSION JOINTS

- Overcome Expansion Stress
- Avoid Misalignment
- Maximum Resistance to Shock
- Require No Gaskets

Write for Bulletin M685

RM1038

Engineered Rubber Products . . More Use per Dollar
RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

For more details circle NED-818 L on enclosed inquiry slip

Here's the simplest and *smartest* way to buy GEARS

OFF-THE-SHELF . . . AT FACTORY PRICES
FROM LOCAL DISTRIBUTORS' STOCK

Catalog No. 57 lists over 2000 gears

CALL YOUR BOSTON Gear DISTRIBUTOR

69 Hayward St., North Quincy, Mass.

For more details circle NED-819 L on enclosed inquiry slip

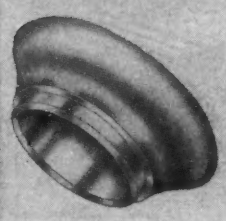
The ORIGINAL Pipe Repair

The Skinner-Seal Emergency Pipe Clamp is an instant, lasting repair under any operating condition. Rugged malleable iron. Anyone can apply in a few moments. Made in all sizes, ½" to 12", for steel and C. I. pipe. Stocked by practically all supply stores. The leading clamp for over 50 years.

M. B. SKINNER CO., South Bend 21, Ind. — Established 1898

▲ For more details circle NED-820 L on enclosed inquiry slip ▲

Nothing SEALS as POSITIVE!



NYLTITE®

ROLLED NYLON WASHERS

make a positive seal up to 250°F and can be used with any standard fastener including tapping screws

NYLTITE WASHERS SEAL AND STOP LEAKS WITHSTAND PRESSURE UP TO 15,000 PSI RESIST VIBRATION • PREVENT CRAZING RETARD ELECTROLYSIS AND ARE EXCELLENT FOR INSULATING

(Long, headed sleeves are also available from stock)

SEND FOR SAMPLES AND LITERATURE NOW!

NYLTITE CORPORATION OF AMERICA

280 BADGER AVENUE • NEWARK 8, NEW JERSEY

▲ For more details circle NED-821 L on enclosed inquiry slip ▲

New Processes and Materials

EPOXY GLUE
forms hard, permanent bond

Waterproof, transparent Magic epoxy glue forms a hard, permanent bond in joining a wide variety of materials to themselves and to each other. Steel, aluminum, brass, copper, iron, glass, wood, ceramics, porcelain, leather, masonry, and plastics are among materials that can be bonded. Glue is furnished in a two-tube package—one each of resin and hardener. A metal mixing pan is included on the instruction card. Bulk quantities are available. • **Magic Iron Cement Co.**, 14215 Caines Ave., Cleveland 28, Ohio.

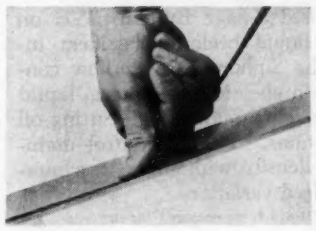
▲ For more details circle NED-823 L on enclosed inquiry slip ▲

BURNISHING COMPOUND
for aluminum, zinc, and steel

Mildly acidic FM 286 burnishing compound produces a brilliant blue-white color on zinc die castings. It is also suited for burnishing aluminum, steel, and other metals except magnesium and often eliminates the need for a bright dip operation on metals which develop oxide films. Compound will not leave a film to hinder subsequent plating. • **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

▲ For more details circle NED-824 L on enclosed inquiry slip ▲

SELF-STICKING FELT TAPES
sealing type also deadens sound



Sound deadening, cushioning, dust and moisture sealing, squeak elimination, and insulation are typical applications for Presstite 500 Series pressure-sensitive felt sealing tapes. No. 500 untreated felt has adhesive on one side and removable protective backing, No. 505 is asphalt-treated felt with adhesive, and No. 508 chromate treated wax-impregnated felt protects against corrosion and fungus. Tapes adhere to almost any clean surface, are easily applied by hand, and are packaged in rolls in various thicknesses and widths. • **American-Marietta Co.**, Presstite Div., 39th & Chouteau Avenue, St. Louis 10, Mo.

▲ For more details circle NED-825 L on enclosed inquiry slip ▲

your guide to the gear pump for your application

Searching for a gear pump with top volumetric efficiency?

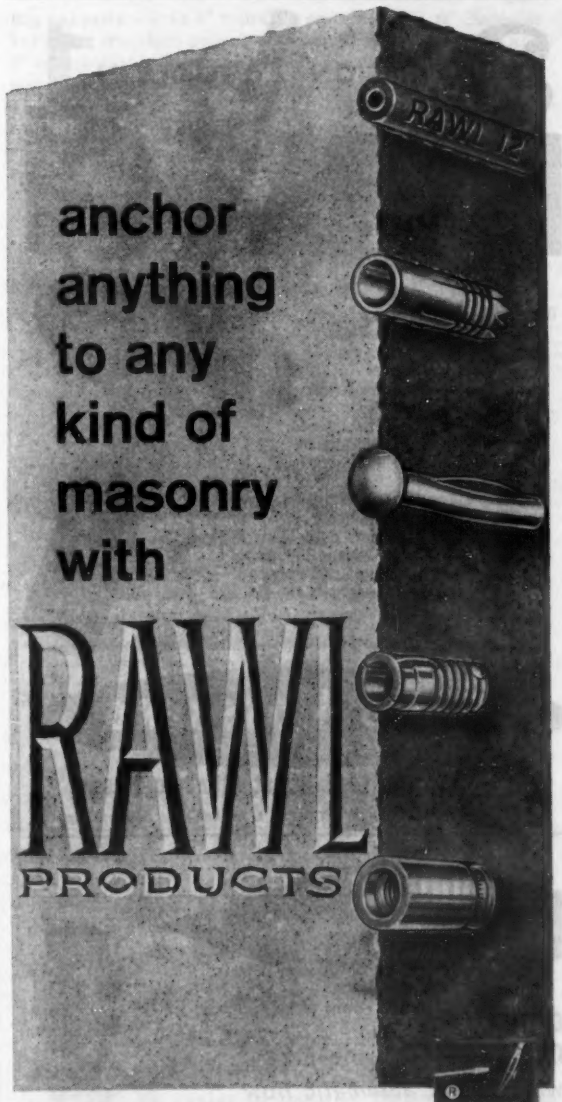
• Eastern 1200 series – up to 1.6 gpm – pressures to 800 psi • Eastern 100 series – up to 5 gpm – pressures up to 1500 psi • Eastern 700 series – up to 9.8 gpm – pressures up to 1500 psi. Save hours of searching your way through the gear pump maze – send for catalog 810 now!

Other Eastern products:

• hydraulic motors • positive displacement pumps • centrifugal pumps • aircraft pumps

EASTERN INDUSTRIES, INC.
Hamden, Connecticut

▲ For more details circle NED-826 L on enclosed inquiry slip ▲



Anchoring and drilling devices for fastening anything to masonry include RAWLPLUG universal masonry anchors . . . SABER-TOOTH self-drilling anchors . . . plus a full line of other MASONRY ANCHORS, DRILLS, and ACCESSORIES . . . all in free 48-page pocket-size "Masonry Anchoring Handbook." Ask your supplier or local Rawlplug branch or send coupon to:

R-16

The RAWLPLUG Company, Inc.
256 Petersville Road, New Rochelle, N. Y.

I'd like a FREE copy of the "Masonry Anchoring Handbook."

Name.....

Title.....

Company.....

Address.....

▲ For more details circle NED-827 L on enclosed inquiry slip ▲

OSBORN®

HOW TO END CONVEYOR BELT CLEANING PROBLEMS

Unique OSBORN ROTA-MASTER® brushes do the job automatically . . . can cut your downtime and maintenance costs now

CARRYOVER on rubber and fabric conveyor belts can cause destructive wear—and add costly downtime hours spent in frequent cleaning. Osborn Rota-Master® Brushes automatically and efficiently prevent buildup of such materials as chemicals, food, tobacco, chips, core sand, coke and ore on belts, rolls, snubber pulleys and return idlers.

Easy to install and adaptable to any system—Rota-Master Brushes clean conveyor belts with a unique, flexible sweeping action that does a thorough job. Brushes are self-cleaning, simple to adjust for correct brushing pressures.

Write for details to help pinpoint exactly how you can cut costs and simplify your conveyor cleaning. *The Osborn Manufacturing Company, Dept. N-21, Cleveland 14, Ohio.*

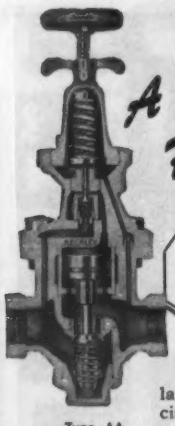
Newest Osborn Rota-Master® Brush features: Newly developed KORFIL®P fill material is extra-rugged . . . cleans more thoroughly, wears longer. New lightweight mounting is easier to handle and install. Mounting is re-usable . . . replacement strips easily inserted. In 16", 18", 24" face widths. Assemble in multiples for any belt size.

Write For Rota-Master® Brush Booklet . . . includes complete application, specification and operational data for all types of conveyor belt cleaning requirements.

Osborn Brushes

METAL FINISHING MACHINES . . AND METHODS • INDUSTRIAL BRUSHES • FOUNDRY PRODUCTION MACHINERY

▲ For more details circle NED-822 L on enclosed inquiry slip ▲



A Favorite in Processing Plants

KECKLEY
STEAM OR AIR PRECISION PRESSURE REGULATOR

Type AA

Processing requirements are critical. It is important that the proper regulator be selected. Keckley provides precision-engineered and constructed pressure regulators for these exacting service conditions. Insist on the best, specify Keckley.

Standard valves suitable for pressures to 300 lbs. steam, 600 lbs. air. Complete size range, ½" through 6", for all capacity requirements. Bronze or semi-steel bodies with hardened stainless steel Unit Pilot Valve, main valve and seat. Factory tested, field proven.

Write for Bulletin No. 60 or specific application recommendations

O. C. KECKLEY COMPANY
General Offices and Factory
3400 CLEVELAND ST., SKOKIE, ILLINOIS
KECKLEY
Pressure Regulators • Temperature Regulators • Float Valves
Strainers • Solenoid Valves • Reducing Valves
Pop Safety Valves • Relief Valves

▲ For more details circle NED-828 L on enclosed inquiry slip ▲

3 PRECISION TOOLS IN 1

Designed for close tolerance, low range tightening, this 3-way Apco Mossberg torque tool can be used as a vertical type wrench . . . or as a torque screw driver, with either slotted or recessed bits. Simple, quick changing of bits permits accurate measuring of tension for a wide variety of electrical, electronic, instrument assembly or repair work. High quality Apco workmanship includes thrust bearings to minimize friction. Easy-to-read white on black indicator dial. Available in 13 sizes for inch-gram, inch-ounce, and inch-pound readings. Socket head bits also available. Write for details.

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

▲ For more details circle NED-829 L on enclosed inquiry slip ▲

HANSEN
SERIES HK® QUICK-CONNECTIVE
TWO-WAY SHUT-OFF COUPLINGS

QUICK CONNECTION
with instant automatic flow

QUICK DISCONNECTION
with instant automatic shut-off
. . . prevents loss of liquid, gas, or pressure.

Hydraulic and pneumatic lines are quickly and easily connected with Hansen Series HK Two-Way Shut-Off Couplings. No tools required.

When Coupling is disconnected, valves contact valve seats in both Socket and Plug—instantly shut off both sides of line—prevent loss of liquid, gas, or pressure. Coupling does not depend upon line pressure to seal either end of line.

Available in brass or steel, with female pipe thread connections from ⅛" to 1½" inclusive.

Write for Hansen Catalog —a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities . . . See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle NED-830 L on enclosed inquiry slip ▲

New Literature & Catalogs

Super Alloy Tubing

Superior Tube Co.—Up-to-date information on small diameter super alloy tubing is provided in 16-page selection guide No. 71. Tubing made from Inconel, Hastelloy, Haynes, and Waspaloy alloys retain service strength at up to 1650° F and resist progressive oxidation and other types of corrosion. Applications in aircraft and missile design are emphasized.

▲ For more details circle NED-831 L on enclosed inquiry slip ▲

Automatic Staplers & Tackers

Fastener Corp.—On-the-job photos point up the many uses of Duo-Fast automatic stapling and tacking equipment listed in 32-page catalog. Latest additions to this line of equipment are described along with staples and brads.

▲ For more details circle NED-832 L on enclosed inquiry slip ▲

Office Layout Kits

Visual Plant Layouts Inc.—Folder on "Office Planning Models" lists 148 items, including various sizes of desks, chairs, file cabinets, and business and calculating machines of well known manufacturers. Planning kit allows office layout to be planned ahead with three-dimensional scale models to avoid haphazard or inefficient arrangements.

▲ For more details circle NED-833 L on enclosed inquiry slip ▲

Construction Hardboards

Weyerhaeuser Co.—16-page booklet "A Catalog and Guide for Builders and Architects" provides specific product data and detailed working and application instructions for line of exterior and interior hardboards. Prefinished Weytone and a new line of prime-coated tempered Weytex for panel siding, gable ends, soffits, and fencing are considered in sections covering underlayment, working methods, and fastening.

▲ For more details circle NED-834 L on enclosed inquiry slip ▲

Liquid Cyclone Classifiers

Dorr-Oliver Inc.—Revised 8-page Bulletin 2503 on rubber-lined DorrClone liquid cyclone classifiers includes a description of the Siphontrol underflow control. Classifiers are used in chemical processing, liquid degritting and desanding, chip removal in cutting-oil systems, and other operations. The Siphontrol maintains constant underflow density without instrumentation over a full range of feed variations.

▲ For more details circle NED-835 L on enclosed inquiry slip ▲

Conduit & Cord Grips

Kellems Co.—Interwoven steel strand grips for Sealtite conduit and for Hubbell Twist-Lock caps and connectors control the arc of bend and absorb flexure and vibration. These grips, as well as deluxe cord grips, bus drop and strain relief grips, pulling grips, and customer specials are illustrated and specified in 24-page Catalog 60.

▲ For more details circle NED-836 L on enclosed inquiry slip ▲

HYDRAULIC CYLINDERS

• *prompt delivery*
• *competitive price*
• *wide choice of mountings*
• *compact design*

Choose the options best suited to your needs—the outside configuration can be standard or custom designed to suit your requirements when you specify Vickers hydraulic cylinders. Rod end threads, number of flats, port positions and straight thread port connections are among the external options available. Standard bore sizes range from 1½" to 6", in standard and heavy duty rod designs.

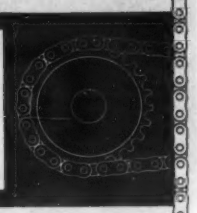
Get details in Bulletin 60-68.

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
9011 Department 1400 • Detroit 32, Michigan

▲ For more details circle NED-837 L on enclosed inquiry slip ▲

POSITIVE MOTION TRANSFER
with . . . no cable slippage
. . . no complicated gearing

SIERRA MINIATURE MECHANICAL CHAIN AND SPROCKETS



The ideal way to provide precise, positive control in servo systems, gyro systems, special cameras, small precision instruments, and many other miniature and sub-miniature assemblies. Transmits power through several planes simultaneously. Unlimited center-to-center selection. Reduces weight, cost, maintenance. Permits wider tolerances. Designed to operate around minimum 7-tooth sprocket with root diameter .250 inches. Chain pitch .1475 inches; Weight .45 oz. per lineal ft. Material: stainless steel, or other materials.

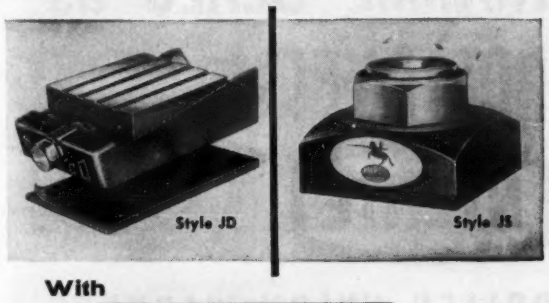
NEW CATALOG

Contains useful application data, specifications, tables on chain pitch and sprocket sizes, suggestions for calculating center-to-center distance. *Write for yours today.*

123 E. Montecito Avenue, Sierra Madre, California
Sierra ENGINEERING CO.
T. M. REG.

▲ For more details circle NED-838 L on enclosed inquiry slip ▲

DEPENDABLE MACHINE SUPPORT!



With EMPCO LEVELING JACKS

For better machine performance set your machines level and keep them level! That's the key to increased production with less maintenance! EMPCO Leveling Jacks provide a solid, adjustable support for machine tools, large surface plates, tool room, and production equipment of all types. Easily installed and located, EMPCO Jacks keep your equipment level and stable—keep maintenance at a minimum.

VI-SORB Mounting Pads, optional with EMPCO Jacks, control vibration from within the machine itself and reduce transmitted vibrations. Available in six styles and 25 models there's a EMPCO Jack and VI-SORB Mounting Pad for your every machine leveling requirement!

WRITE TODAY FOR ILLUSTRATED BULLETIN AND PRICES!

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

▲ For more details circle NED-839 L on enclosed inquiry slip ▲

NEW IDEA
for preheating and stress relieving

ARCOS Heat-O-Coil resistance wire insulated with ceramic beads

• Low cost • Easy to apply • Ideal for field use • Uses standard welding equipment.

Write for bulletin

ARCOS CORPORATION
1500 S. 50th St., Philadelphia 43, Pa.

▲ For more details circle NED-840 L on enclosed inquiry slip ▲

TUTHILL automatic reversing pumps

- Positive reversing action
- Require no valves
- Port positions remain constant

Tuthill's complete line of automatic reversing pumps provide instantaneous, positive reversing action without the use of valves. The port positions remain constant regardless of the direction of shaft rotation. And all pumps provide uniformly high efficiency in both flow directions.

The automatic reversing design was developed by Tuthill for applications where the pump must be driven from a reversing shaft, or where machinery must be shipped without knowing the ultimate direction of the driving unit. These pumps have been enthusiastically accepted by designers and have proven their dependability in thousands of demanding applications.

A complete selection of 375 models is provided with capacities from ⅓ to 200 gpm; for pressures to 400 psi; and speeds to 1800 rpm. Included are stripped models specially developed for incorporation into manufactured products.

A 12-page catalog, No. 105 gives complete information on all Tuthill automatic reversing pumps. Write today.

TUTHILL PUMP COMPANY
959 East 95th Street, Chicago 19, Illinois

For more details circle NED-841 L on enclosed inquiry slip

Helicoid Gages give ***Sustained Accuracy,*** even on the toughest jobs

★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.
★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.
★ Six cases, including new solid-front safety case, meet every mounting requirement.
★ External pointer adjustment can't be jarred out of position.
★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog DH-65.

HELICOID GAGES
Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

For more details circle NED-842 L on enclosed inquiry slip

Jib Cranes for Any Requirement

WRIGHT Wall Bracket Jib Cranes are the perfect answer for supplementary use to a regular traveling crane or monorail track—or for individual use in bays, on sides of shops, etc. Hinge plates are fitted with Hyatt Roller Bearings or Bronze Bushings. These and all other fittings are made of annealed electric steel. Double tie rods connected to top and bottom fittings allow for "take-up" without use of turnbuckle. Note: mast not furnished. A complete line of WRIGHT pillar type jib cranes is available. If you like, jib crane fittings can be bought separately for local crane assembly.

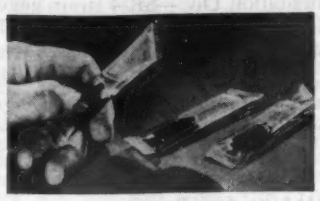
Write our York, Pa., office for Bulletin DH-300

WRIGHT CRANES
Wright Hoist Division • American Chain & Cable Company, Inc.
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-843 L on enclosed inquiry slip

New Processes & Materials

TWO-PART ADHESIVE
bond resilient at −40 to 185° F



Saran tube in which J1158 two-part adhesive is packaged contains both the base material and a smaller tube of catalyst. Smaller tube is broken by squeezing, and released catalyst is kneaded into the base. After mixing, end of larger tube is snipped off and adhesive is applied. The adhesive assures a resilient bond at −40 to 185° F and has good tenacity in holding metal to glass, metal to metal, plastic to glass, rubber to metal, rubber to glass, aluminum to aluminum, and aluminum to glass. It cures at room temperature, although cure can be accelerated with heat. Packets are made in several sizes, and an experimental kit of two packets with instructions sells for $3. • Armstrong Cork Co., Industrial Div., 1270 State St., Lancaster, Pa.

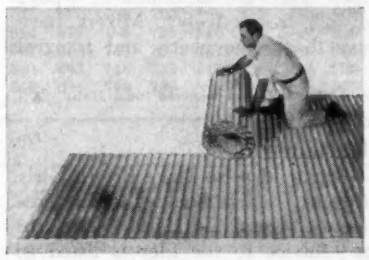
For more details circle NED-844 L on enclosed inquiry slip

ELECTRICAL CONTACT LUBRICANT
also reduces layers of tarnish

Electrolube, a water-repellent and nondrying lubricant and conditioner for electrical contacts, increases the life of contact surfaces and reduces the layers of tarnish. It can be used on arcing and nonarcing contacts. Brush life is reportedly increased 300 per cent by the nonaqueous lubricant which will pour at −50° F and flashes at 457° F. • Electralab Printed Electronics Corp., Needham Heights 94, Mass.

For more details circle NED-845 L on enclosed inquiry slip

GLASS FIBER PANELING
cross-corrugated and translucent

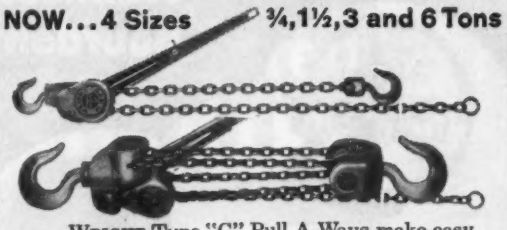


Labor savings are result from use of Rotolite translucent glass fiber reinforced plastic paneling which is furnished in roll form for rapid installation in skylights and sidelights. The cross-corrugated, crinkle-finished material is stocked in 50-ft rolls, 40 in. wide. It can be cut, sawed, nailed, or drilled with common hand tools, and is shatterproof, water resistant, and impervious to corrosion. Also suited for industrial awnings, signs, and other uses, it is made in 5 and 8 oz per square foot weights and seven colors. If widths in excess of 40 in. are needed, a 4-in. horizontal overlap is required. • Filon Plastics Corp., Dept. R1, 333 N. Van Ness Ave., Hawthorne, Calif.

For more details circle NED-846 L on enclosed inquiry slip

New ¾-ton Type "C" Pull-A-Way

NOW... 4 Sizes ¾, 1½, 3 and 6 Tons

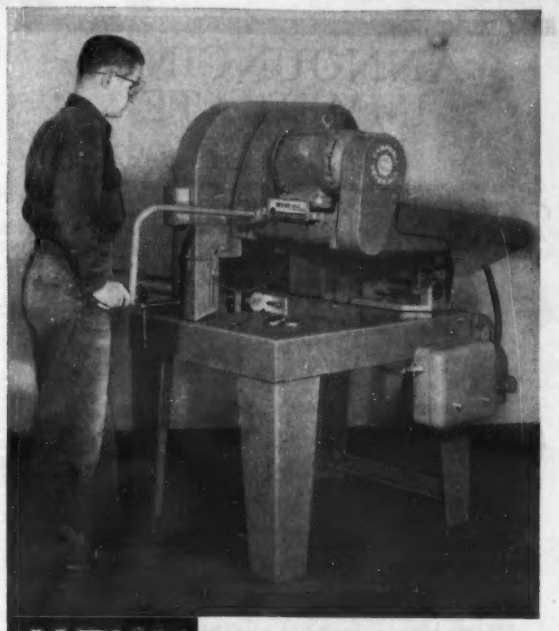


WRIGHT Type "C" Pull-A-Ways make easy work of hundreds of quick hook-up jobs. Now available in four sizes—¾, 1½, 3 and 6-ton—Type "C" Pull-A-Ways are portable, safe and rugged. Corrosion-resistant modern aluminum alloy castings are used for gear case, handle and covers of all models. Hooks, load chain and chain sheave are made of alloy steel. Positive, dependable load brake securely holds load at any point. Lubricated for life. Weights: ¾-ton, 12½ lbs; 1½-ton, 23½ lbs; 3-ton, 36½ lbs; 6-ton, 63 lbs.

Write to our York, Pa., office for Bulletin DH-56

WRIGHT HOISTS
Wright Hoist Division • American Chain & Cable Company, Inc.
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-847 L on enclosed inquiry slip

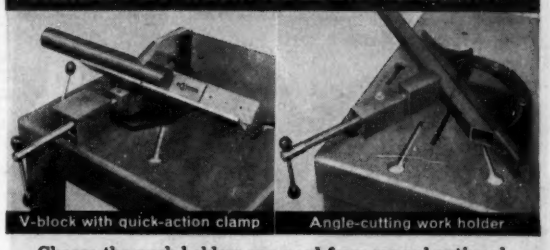


NEW! GREATEST CUT-OFF CAPACITY IN ITS CLASS!

This newest addition to the Sever-All line of abrasive cutting machines—the Model 2-A—provides greater cutting capacity and more flexibility than any other machine in its class. Check these important advantages:

Big capacity • cuts 4" round or square solids, 6" diameter tubing or standard pipe, 6" x 1" flat stock, 6" angle iron and 8" channels. Cuts practically all metals. **Fast operation** • accurate cuts at rates of 2 to 3 seconds per square inch. **Power oscillation** • oscillation is the forward and backward motion of the wheel as it is fed down into the cut. It provides extra cutting capacity, longer wheel life, cooler cutting, and reduced operator fatigue. **Quality cuts** • clean, smooth cuts, require little or no finishing operation. **Economy** • specially developed Sever-All wheels provide lowest cost per cut.

VARIETY OF WORK HOLDERS GIVES UNUSUAL VERSATILITY



V-block with quick-action clamp — Angle-cutting work holder

Choose the work holders you need from several optional arrangements. These include the vise-type holder shown on the machine at top, plus the V-block and angle-cutting fixtures above. Screw-type and quick-action clamping may be used interchangeably.

Write for details on the new Model 2-A Sever-All abrasive cutting machine. Ask for Bulletin DH-299

SEVER-ALL ABRASIVE CUTTING **MACHINES**
Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

For more details circle NED-848 L on enclosed inquiry slip

NEW WRIGHT Safeway Hand Hoists
...Made of Aluminum!

Aluminum covers, hand chain and chain guide in new WRIGHT Safeway hand hoists make them lighter—easier to handle. But original WRIGHT Safeway design remains the same! These hoists feature strong shock-resistant steel. Gears, pinions, drive spindle (also top and bottom hooks) are nickel-chrome-molybdenum alloy steel mounted on anti-friction bearings. Gear train stays permanently lubricated in dust-tight chamber; chain and load wheel are lubricated by wick-type oiler. Electrically welded load chain has maximum resistance to wear and impact. Load wheel, with 5 or more pockets, can be reversed for double life. Weston type load brake. Factory tested at 50% over the rated capacity. Write us at York, Pa., for Bulletin 345.

WRIGHT HOISTS
Wright Hoist Division • American Chain & Cable Company, Inc.
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-849 L on enclosed inquiry slip

ANNOUNCING IMMEDIATE DELIVERY

TUNGSTEN CARBIDE GAGES

The finest quality gages on the market!

Immediate delivery in size range .060 to .750
LARGER SIZES—DELIVERY SLIGHTLY LATER.

Finest Double-end go & no go reversible pin gages — made of the highest quality Tungsten Carbide.

Accuracy guaranteed to XX tolerance.

Mirror finished, precision lapped.

FOR ADDITIONAL INFORMATION AND PRICES, WRITE TO:

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

▲ For more details circle NED-850 L on enclosed inquiry slip ▲

XEROGRAPHY

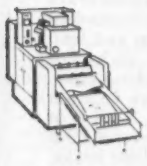
for engineering drawing reproduction

High-quality prints — enlarged, reduced, size-for-size — the fast, *economical* way!

Clean, fast, dry, electrostatic . . . *xerography* has revolutionized engineering drawing reproduction! Savings from $20,000 to *$500,000* have been reported by firms using Haloid Xerox copying equipment, available everywhere at modest monthly rentals.

For high quality offset paper masters: XeroX® Model 1218 copying equipment. Sharp, inexpensive paper masters are made from original drawings of A to D size, reduced or enlarged to 12" x 18" masters for quick run-off.

Volume reproduction from original drawings or roll microfilm: Fully automatic, push-button operation with XeroX Copyflo® Continuous Printers. Produce dry prints (on ordinary paper, vellum or offset paper masters up to 11" wide) at the rate of 20 linear feet a minute; will enlarge, reduce, copy size-to-size from originals or roll microfilm (16 or 35mm).



Copyflo 24C

Reproduction from card-mounted microfilm: The XeroX Copyflo 24 C (for high volume users) and the new low cost Copyflo 1824 (for low volume users) automatically reproduce from 35mm card-mounted microfilm. Produce sharp, dry prints on ordinary paper, vellum or offset paper masters.

Copyflo 1824

GET ALL THE FACTS! Send for EDX Booklet today. Write: HALOID XEROX INC., 60-214X Haloid St., Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd., London.

HALOID XEROX®

▲ For more details circle NED-851 L on enclosed inquiry slip ▲

New Literature & Catalogs

Strain Gage Specifications

Baldwin-Lima-Hamilton Corp., Electronics & Instrumentation Div.—SR-4 strain gage specification and price list No. 4310-60 covers over 350 types of strain gages, plus a line of strain gage instruments and accessories. List includes SR-4 and photoelastic Strainline gages, plus monofilament strain gages and strain inserts sold by B-L-H under license.

▲ For more details circle NED-852 L on enclosed inquiry slip ▲

Motors for Pumps

Franklin Electric Co.—NEMA C standard face-mounted and Uniseal motors for powering pumps are illustrated in folder P-86031. Latter has built-in mechanical seal cavity and moisture-isolated bearings. Units presented are rated 1/3 through 2 hp, single and three-phase.

▲ For more details circle NED-853 L on enclosed inquiry slip ▲

Conveyors for Small Parts

Rapids-Standard Co.—Cleated and magnetic Rapistan conveyors for handling small parts in general, light, and heavy duty applications are subject of 8-page Bulletin 800. Operations involve elevating parts, scrap, and other small materials to tote bins, hoppers, box carts, work tables, and conveyor lines.

▲ For more details circle NED-854 L on enclosed inquiry slip ▲

Audible Signal Devices

Thomas Industries, Inc., Benjamin Div.—Audible signal equipment for almost every industrial need is shown in 16-page Bulletin K. Signals covered range from explosionproof howlers for mines to weatherproof outdoor buzzers. Diagrams, specifications, and mounting methods for all signal equipment are given.

▲ For more details circle NED-855 L on enclosed inquiry slip ▲

Open & Closed Tank Mixers

Mixing Equipment Co.—Top-entering Lightnin Mixers for closed and open tanks are described in 4-page Bulletins B-522 and 523, respectively. Mixers have right-angle drive, easy to change gears, and integral stuffing box.

▲ For more details circle NED-856 L on enclosed inquiry slip ▲

Increasing Filing Efficiency

Avery Label Co.—"Bright Ideas to Make Bright Girls Shine at Filing" is title of 16-page booklet which provides secretaries, office managers, and clerks useful tips on filing procedures. Advice to the filer is listed in series of do's and don't's and is followed up with a section on alphabetizing.

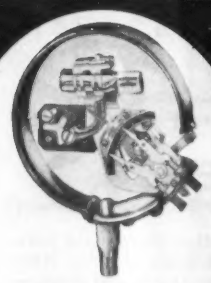
▲ For more details circle NED-857 L on enclosed inquiry slip ▲

Carbide Tools & Wear Parts

Adamas Carbide Corp.—36-page Price List No. 960 contains specifications and new prices on a complete line of tungsten carbide tools, tool tips, dies, wear parts, and Dex-A-Tools. Net prices are shown for single items and various quantities.

▲ For more details circle NED-858 L on enclosed inquiry slip ▲

MERCOID® PRESSURE CONTROL equipped with 316 Stainless Bourdon Tube



Series D-41, 243, 541

316 stainless steel welded Bourdon tube. ¼" (316) stainless steel pressure connection. Nickel plated mechanism. Outside adjustments. Calibrated dial. Hermetically sealed mercury contact.

Operating ranges: 30" vac.-75 psig; 10-100 psig; 30-400 psig; 75-800 psig. and 100-1000 psig.— with varying differentials and electrical capacity to meet your application.

WRITE FOR BULLETIN 019

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-859 L on enclosed inquiry slip ▲

Stow Flexible Tool Shafts Deliver Job-Rated Performance

Stow Flexible Tool Shafts are ideally suited for production grinding, polishing, sanding, plus many other finishing operations. Stow shafts help to increase precision and to eliminate operator fatigue. Flexibility and ease with which the handpiece can be maneuvered permits a freedom of operation that can not be equalled with any other portable tool.
Equip idle motors or gas engines with Stow Tool Shafts. Harness your available power in planning production short-cuts. Only precision ball bearings are used in the motor connections and handpieces. High quality shaft cores and rubber, oil-resistant casings are used in all sizes.
A large number of single-speed and multi-speed complete flexible shaft machines are immediately available. Capacities from ¼ HP to 3 HP with speeds to 6800 RPM. See how Stow Flexible Shafting can work for you. **Send for Catalog 59.**

STOW MANUFACTURING CO.
26 Shear Street • Binghamton, New York

▲ For more details circle NED-860 L on enclosed inquiry slip ▲

For Oily Abrasive Stampings—Scrap —Heavy Oily Abrasive Assemblies or Subassemblies

Under the Most Severe Conditions

Scandura BELTING will do the job best!

Check THESE REASONS WHY!

OIL RESISTANT—Scandura is unaffected by mineral oils. Can't swell. No plies to separate. Perfect for oily, greasy parts!

ABRASION RESISTANT—Polyvinyl cover resists abrasion amazingly—proves outstanding wearability on roughest, toughest jobs.

FLEXIBLE—Scandura flexes easily around small-diameter pulleys without sacrificing strength or wear.

FIRE RESISTANT—Certified fire resistant, Scandura is safe to operate in hazardous locations.

SOLID-WOVEN CONSTRUCTION—Interwoven carcass prevents ply separation, affords high fastening and tensile strength, resists stretch.

PVC IMPACT RESISTANT CUSHION—Polyvinyl chloride cover resists impact, is proof against moisture, dilute acids, alkalis, etc.

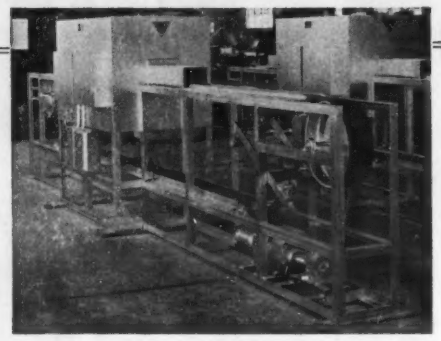
Scandura INC.

WRITE FOR THE FACTS TODAY!
North Tryon St. at Keswick Avenue (P.O. Box 949) Charlotte 1, North Carolina

▲ For more details circle NED-861 L on enclosed inquiry slip ▲

PERECO

"Sectionalized" Continuous Furnaces



This Belt Furnace is another example of Pereco's extensive line of factory-built "sectionalized" electric continuous furnaces. Similar models are available with sliding plate or car type conveyors. Number of sections for pre-heat, hot and cooling zones determined by work to be performed. Choice of controls. Suited for wide range of production work calling for temperatures up to 2750 degrees F. Easily assembled on the job. Consult us on your needs.

PERENY EQUIPMENT COLUMBUS OHIO

PERENY EQUIPMENT CO., Inc.

Dept. G, 893 Chambers Road • Columbus 12, Ohio

▲ For more details circle NED-862 L on enclosed inquiry slip ▲

Puts Savings in Process Lines

Carpenter

Stainless Pipe

• New lower prices make Carpenter Stainless Pipe more economical than ever for handling corrosive fluids. It saves you expensive downtime, cuts replacement costs, eliminates loss of product by contamination and leakage.

Schedules 5, 10 and 40 Full Finished Stainless Pipe are available from nationwide warehouse stocks in sizes of ⅛" to 4", Types 304, 304L, 316, 316L and Stainless No. 20Cb. High alloys for severe corrosive conditions also supplied on mill orders.

FREE: *Handy slide chart of stainless pipe properties, sizes, weights, bending and coiling data. Write for copy and for help on specific pipe problems.*

THE CARPENTER STEEL COMPANY

Alloy Tube Division, Union, New Jersey

▲ For more details circle NED-863 L on enclosed inquiry slip ▲

New Processes & Materials

PROTECTIVE METAL COATING prevents corrosion during storage

Corrosion of iron, steel, aluminum, magnesium, plated finishes, and other surfaces during processing, storage, or shipment is prevented by CRC Soft - Seal protective coating. Applied by spray or immersion, it penetrates grain boundaries, cracks, and pores to form a continuous film from 1 to 8 microns thick. Protection can last up to 5 years, depending on conditions of exposure. Coating never becomes dry, hard, or brittle; is harmless to painted surfaces; and is easily removed with live steam or solvents. Product is packaged in 16-oz aerosol spray cans and 1, 5, and 55-gal containers. • **Corrosion Reaction Consultants,** 116 Chestnut St., Philadelphia 6, Pa.

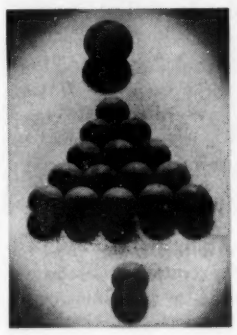
▲ For more details circle NED-865 L on enclosed inquiry slip ▲

AIR-HARDENING DIE STEEL free machining, multi-use type

Advantages of air-hardening grades of tool steel are combined with low hardening temperature of oil-hardening grades in Orbit die steel. The AISI Grade A-6 multi-use product can be heat treated without the use of expensive furnaces. Its free-machining properties reportedly give it 40 per cent better machinability than oil-hardening grades used for the same type of dies. It is also said to be tougher and to possess good dimensional stability in the as-quenched condition. • **Crucible Steel Co. of America,** Box 88, Pittsburgh 30, Pa.

▲ For more details circle NED-866 L on enclosed inquiry slip ▲

SOLID TEFLON BALLS used as spacer or filler material



Solid Teflon spheres available in a range of diameters can be used as spacer or filler material to maintain a specified level of liquid in a container. Since most liquids deteriorate or evaporate over a period of time, use of spacer balls permits effective operations with smaller amounts of fluid. Typical example of a volume control use is in oil-filled circuit breakers and transformers. Teflon balls will not break, are easy to handle, are unaffected by humidity and fungus, resist weathering, and have no known solvent. • **Garlock Inc.,** Garlock Electronic Products, Tenth Street, Camden 1, N. J.

▲ For more details circle NED-867 L on enclosed inquiry slip ▲

Togetherness

matters with industrial fasteners, too!

Togetherness, industrial style, has a special meaning at Thompson-Bremer because we are one of the few fully integrated manufacturers of Sems, lock washers, thread-cutting screws, terminals and cold-headed specialties. It means we can give you faster, more specialized service at competitive prices. You want your assemblies to go together economically and stay together reliably—that's what our EVERLOCK fasteners have been doing for our customers since 1918. Send for catalog and samples or call your EVERLOCK representative, and let's get together on your fastener needs.

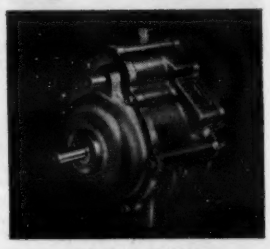
AMF Everlock INDUSTRIAL FASTENERS

Thompson-Bremer & Co.
Dept. 35 228 N. LaSalle St., Chicago 1, Ill.
Division of American Machine & Foundry Company

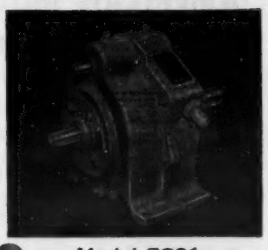
▲ For more details circle NED-868 L on enclosed inquiry slip ▲

Now there are **3** *Versatile*

S-N REVERSING TRANSMISSIONS

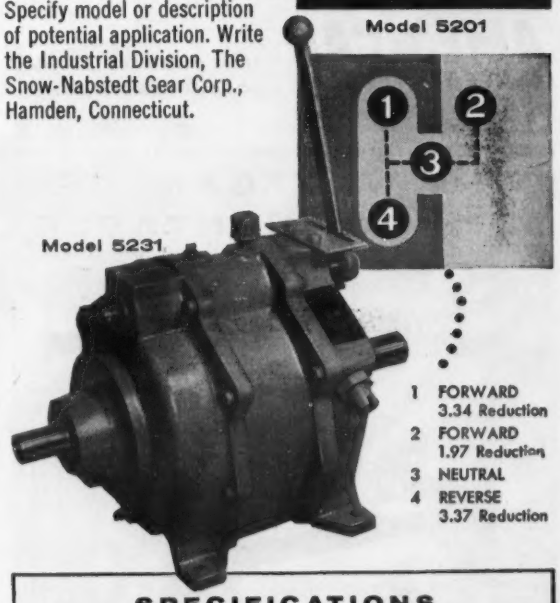


Model 5108



Model 5201

All designed to meet the demands for single, space saving units that reverse under full load. The newest, Model No. 5231, combines 2 speeds forward, neutral, reverse and reduction. Models 5201 and 5108 combine forward, neutral, reverse and reduction. All are performance proven. Technical literature is available. Specify model or description of potential application. Write the Industrial Division, The Snow-Nabstedt Gear Corp., Hamden, Connecticut.



SPECIFICATIONS

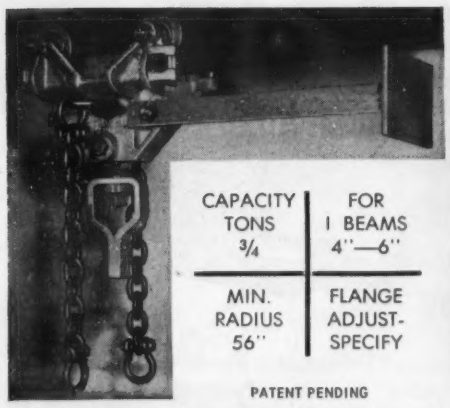
MODEL NO.	5231	5201	5108
Reduction Forward	1.97:1 & 3.34:1	3.16:1	3.75:1
Ratio Reverse	3.37:1	3.16:1	3.75:1
Power Up To	28 HP	28 HP	8 HP
Maximum Input Torque	1000 in. lbs.	1000 in. lbs.	320 in. lbs.
Maximum Input Speed	2400 RPM	2400 RPM	2400 RPM
Dimensions Long	15 11/16"	11½"	9⅛"
Dimensions Wide	14"	12½"	10"
Dimensions High	14⅜"	14¾"	10⅝"

SNOW-NABSTEDT

Transmission Engineers

FOR OVER HALF A CENTURY

▲ For more details circle NED-869 L on enclosed inquiry slip ▲



CAPACITY TONS	FOR I BEAMS
¾	4"—6"
MIN. RADIUS	FLANGE ADJUST-
56"	SPECIFY

PATENT PENDING

Engineered for

SAFETY and PERFORMANCE . . .

Hand Propelled ¾ ton TROLLEY

1. Design of trolley permits operation on either sloped or flat flanged I-beam.
2. Engaging side thrust rollers reduce friction.
3. Hardened steel wheels—Enclosed ball bearings sealed against dust and pressure lubricated.
4. Heavy formed steel hanger with roller thrust bearing permits 360° rotation if used without safety chain.
5. Safety chains can be supplied with either dual or single fastening—Specify length to suit application.
6. Steel safety straps are independent from trolley assembly and are centered over the load.
7. Combination of aluminum and magnesium castings are light in weight for ease of application and maximum strength.
8. Trolleys can be supplied with bumper assembly for applications where more than one trolley is used on the same I-beam.

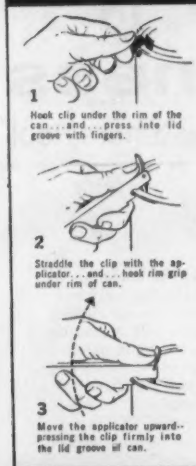
WRITE, WIRE OR PHONE TODAY!

UNIFIED INDUSTRIES, INC.

Instant Delivery on Standards
Quick Delivery on Special Applications.
HOWELL, MICHIGAN
Box 95
Phone: 654

▲ For more details circle NED-864 L on enclosed inquiry slip ▲

NOW--
Seal Cans in a Jiffy
WITH POST OFFICE APPROVED
FREUND TRIPLE-GRIP CAN CLIPS



Anyone can easily and quickly apply Freund Triple-Grip Can Clips. No skill, no experience required.

Simple illustrated instructions show how. And, the cost is only pennies per can. For convincing proof, send for special Try-It Kit and test in your plant--100 clips for gallon cans, 100 for quart and smaller cans, special applicator tool, and low quantity prices--post paid $7.50.

Or--samples and price list yours for the asking.

FREUND CAN COMPANY
4445F Cottage Grove Ave. • ATlantic 5-7700 • Chicago 53, Ill.
For more details circle NED-870 L on enclosed inquiry slip

Lowering a partly assembled trailer top from an upright jig. Five hoists are used because some tops are made in 3 sections. This is a 44-ft. Monorail crane. A 30-ft. crane and 150 ft. of Monorail track also speed production.

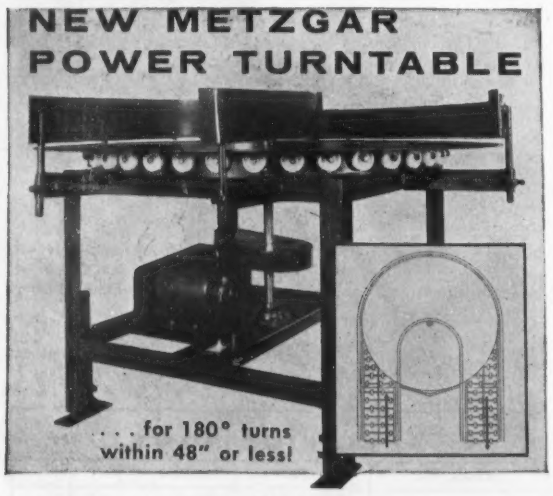
AMERICAN MONORAIL DOES IT!
20% Boost in Production
20% Saving in Labor

"Our Monorail system eliminated 16 hard laboring jobs—4 in each of 4 departments. Our production has increased at least 20%, thanks to Monorail and we have virtually eliminated backsprains and accidents."

(Statement made by an executive of Richardson Homes Corporation, mobile home builder at Elkhart, Indiana.)

AMERICAN MONORAIL
1116 E. 200th STREET
CLEVELAND 17, OHIO
For more details circle NED-871 L on enclosed inquiry slip

NEW METZGAR POWER TURNTABLE



• Motor-driven, circular steel table rides noiselessly on bed of Metzgar Nylo wheels • Can be equipped with single or multiple entry and departure points for any turn or turns up to 180° • Steel guide rails to maintain alignment • Costs much less than power belt or live roller installation effecting same degree of turn • Standard table diameter 48" — smaller or larger models to your specs.

SEE YOUR METZGAR REPRESENTATIVE OR WRITE FOR FULL DETAILS

METZGAR CONVEYOR CO.
416 Douglas St. N.W., Grand Rapids 4, Mich.
WHEEL & ROLLER GRAVITY CONVEYORS • LIVE ROLLER CONVEYORS
POWER BELT CONVEYORS • SWITCHES • ACCESSORIES
For more details circle NED-872 L on enclosed inquiry slip

New Literature & Catalogs

Electric Heaters & Devices

General Electric Co.—48-page illustrated Bulletin GEC-1005K lists product and application data for Calrod tubular, finned tubular, cartridge, strip, insertion, immersion and vane heaters; forced and natural convection air heaters; and Form G and edgewound oven heaters. Sections are devoted to heater control and wiring, and heater selection.

For more details circle NED-873 L on enclosed inquiry slip

Live Storage System

North American Equipment Corp.—Step-to-step comparison of conventional static storage method and the Quik-Pik live storage system is made in 12-page manual. System employs standardized guide sections and tracks with polyethylene slides or rollers and can be custom assembled to suit any size, shape, weight, or movement of a warehouse item.

For more details circle NED-874 L on enclosed inquiry slip

Hydraulic Products

Vickers Inc.—74-page Catalog 5001C presents line of hydraulic products for industrial, marine, and ordnance fields. Covered are power packages, servo valves and systems, vane pumps, piston pumps, pressure controls, flow and directional controls, control assemblies, hydraulic motors, variable speed drives, hydraulic cylinders, and accessories.

For more details circle NED-875 L on enclosed inquiry slip

Motor Operated Valves

Warren Engineering Co.—Condensed Bulletin 100 on motor operated valves contains engineering, performance, and application data on electric motorized, diaphragm, modulating, pressure reducing, and other types in sizes ranging from 1/4 to 10 in. Pressure limits, dimensions, steam and water capacities, and other information are tabulated. Also covered are such accessories as thermostats, transformers, relays, pressure switches, strainers, and thermometers.

For more details circle NED-876 L on enclosed inquiry slip

Drawing & Measuring Instruments Guide

Details of drawing sets, instruments, design aids, drafting machines and tables, drawing equipment and materials, computing and measuring equipment, and surveying instruments make up contents of 124-page Catalog G. Available only by writing on letterhead to Alvin & Co., 611 Palisado Ave., Windsor, Conn.

For more details circle NED-877 L on enclosed inquiry slip

Food & Chemical Processing Equipment

B. F. Gump Co.—Catalog 806 contains 24 pages of capsule descriptions of equipment for the food, milling, and chemical processing industries. Machines are described for feeding, mixing, sifting, grinding, weighing, packing, and packaging.

For more details circle NED-878 L on enclosed inquiry slip

Grating & Stair Treads

Dravo Corp.—Characteristics of Tru-Weld grating and stair treads are described in 12-page illustrated Bulletin 1112, along with facilities for its manufacture and fabrication. Design, panel widths, and load tables for both standard and close spacing types are covered. A section is devoted to applications.

For more details circle NED-879 L on enclosed inquiry slip

Insulator Calculator

Lapp Insulator Co.—Slide rule type calculator provides easy way to determine the flashover values for all EEI-NEMA and Fog type suspension insulators. Values for strings of 2 to 25 units are quickly obtained with single setting.

For more details circle NED-880 L on enclosed inquiry slip

A Self-Study Course in Brazing

Handy & Harman—Full information on a new packaged self-study course for production and maintenance supervisors on silver brazing techniques, equipment, and materials is presented in 8-page brochure. The course includes an easy-to-follow textbook as well as the materials required to complete the course exercises.

For more details circle NED-881 L on enclosed inquiry slip

Warm Air Heaters

Wanson Corp.—Plan and dimension drawings of all models of Thermobloc industrial and commercial warm air heaters are contained in 8-page illustrated catalog. Specifications are given for gas and oil-fired models with outputs from 300,000 to 1,250,000 Btu per hour. Photos show typical applications.

For more details circle NED-882 L on enclosed inquiry slip

From Seattle to Sydney, from Boston to Bombay, those who demand the best insist on Kerotest. These quality valves have been in service around the world for 50 years. For best service in your applications, always specify Kerotest.

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For more details circle NED-883 L on enclosed inquiry slip

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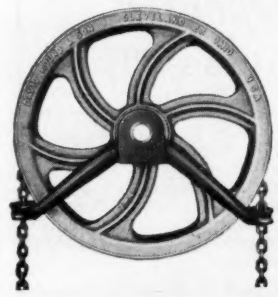

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Sheaves are supplied either with solid hub or bored and key-seated to specification.

Heavy-Duty Sheave No. PO-2
Chain No. 132-S

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Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO
For more details circle NED-884 L on enclosed inquiry slip

TURRETABLE
Cuts cost of feeding parts to drill, tap, mill, punch, assemble

New concept Pneumatic Feed—indexing pawl works on *rim* of turntable, for utmost accuracy! Tapered locating pin locks table precisely in *all directions;* remains locked at all times except when actually moving to next station, even if air pressure should fail.

Fully described in Mead's complete catalog. Write today!

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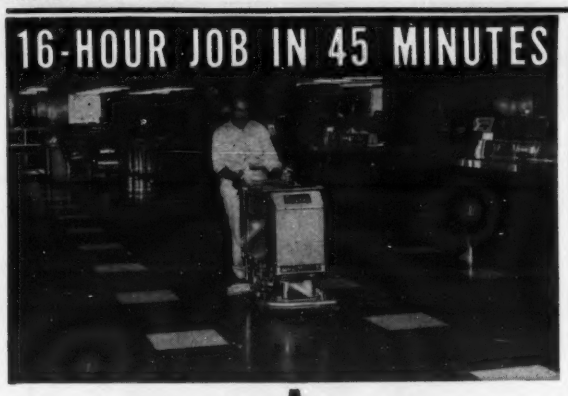

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Cleans the 7214 sq. ft. floor in Atlanta's Fulton Bank in 45 minutes — formerly a four-hour job for a four-man crew. Saves 15¼ man hours. *Does a better job, too.*

Battery, electric, gasoline, propane powered models. Ask your Clarke distributor how much *you'll* save.

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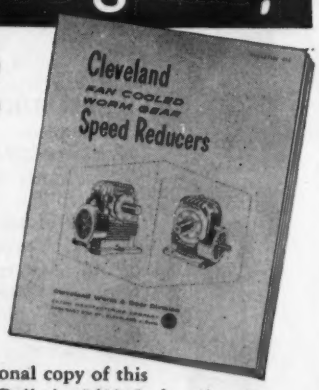

Write today for your personal copy of this new detailed engineering Bulletin #410. It describes the finest, newly designed line of higher-horsepower worm gear speed reducers — from 3 to 12-inch centers.

Engineering data includes:

- Design Features
- Rating Tables
- Service Factors
- Sectional Drawings
- Application/Load Classifications
- Over-all Dimension Drawings

CLEVELAND WORM & GEAR DIVISION

Eaton Manufacturing Company

3283 East 80th Street • Cleveland 4, Ohio

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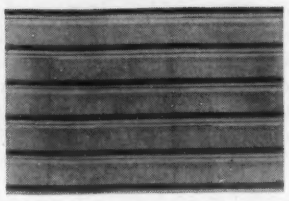
New Processes & Materials

GLUE APPLICATOR PAD made of nonadherent silicone rubber



Problem of adhesive build-up in various gluing operations is minimized by use of this glue applicator pad. It is made of nonadherent General Electric RTV silicone rubber which prevents glue build-up and eliminates downtime for its removal. Pad is compatible with all adhesives. It is available in all standard patterns, including strip, smooth, and gridded types for various types of equipment. Other patterns can be molded to order. • **Acme Plate Corp.,** 244 W. Seneca St., Oswego, N. Y.

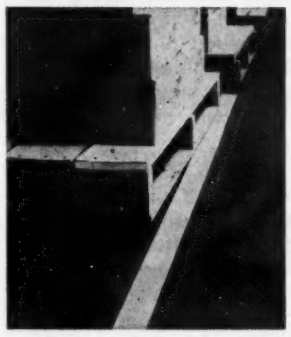
▲ For more details circle NED-889 L on enclosed inquiry slip ▲

SPRAY-ON DRY LUBRICANT is greaseless powdered Teflon

Odorless, colorless, tasteless, and nonstaining Poly-Powder dry lubricant is easily sprayed on sliding surfaces or moving parts. This white sanitary powder is made from Teflon which has a low friction coefficient and an operating temperature range of −450 to 450° F. Lubricant is usable on wood, metal, leather, glass, and many other materials, and is particularly suited for uses where grease or oil are impractical. It is offered in 1 and 4-oz plastic spray bottles and in bulk containers. Free sample is offered. • **Polydoris Products Corp.,** 5306 W. Lawrence Ave., Chicago 30, Ill.

▲ For more details circle NED-890 L on enclosed inquiry slip ▲

PLASTIC TRAFFIC MARKINGS supplied in rolls and strips



Traffic lanes for storage zones in warehouses, directional arrows, crosswalks, clearance lines, warning signs, and words and numerals to indicate obstructions are uses for two extruded vinyl traffic marking materials. Both types are self-adhering pressure-sensitive tapes. Heavy duty Trafficaide markers with tapered edges to prevent scuffing are salt, acid, alkali, gasoline, and oil resistant. Widths up to 30 in. are made in 0.040 and 0.070-in. thicknesses. Mactac type is produced in strips and rolls for bonding directly to all surfaces where it will not be subjected to heavy traffic wear. Brilliant Dayglo colored strips and plastic numerals are available, as are a number of metallic colors, in any length and widths up to 54 in. • **Trafficaide Corp.,** Auburn, N. Y.

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NOW – Increase O-Ring Life, and Reduce Costs with –

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. . . can cost you money in lost time and slowdown, worker morale and lowered productivity.

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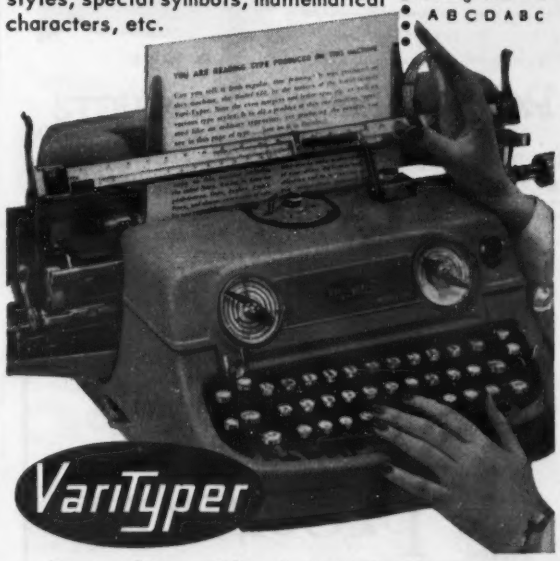

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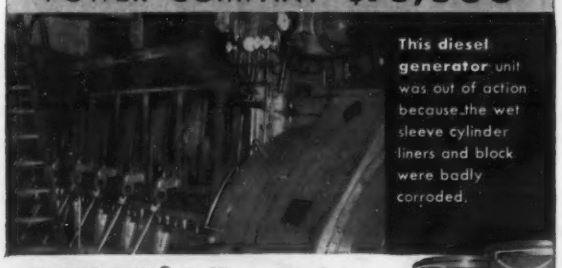

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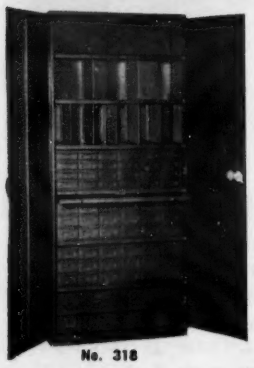
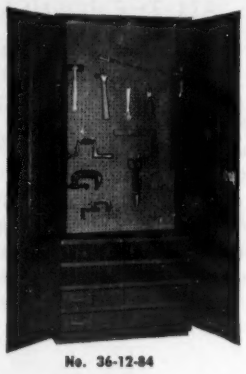
TOOL and HARDWARE CABINETS



No. 318

A MODERN APPROACH TO INDUSTRIAL STORAGE—a battery of new Tool and Hardware Cabinets by PARENT. Bolted side-by-side, these Cabinets form continuous wall storage units. *Each Cabinet has double swinging doors with lock to provide maximum security.*

No. 318 Hardware Cabinet—Size is 36" wide, 12" deep and 7'3" high. Equipped with ten various size bins and 68 drawers. Convenient sliding shelf facilitates sorting.



No. 36-12-84

No. 36-12-84 Tool Cabinet—Size is 36" wide, 12" deep and 7'3" high. Tool compartment is 36" wide, 12" deep and 5'0" high with perforated Masonite tool board mounted on back and sides, furnished with 50 tool hooks. Cabinet also contains bins and box drawers.

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New Literature & Catalogs

Bulk Material Handling Simplified

Tote System, Inc.—Tote Bins are engineered containers, made of aluminum, steel, magnesium, Monel, or stainless depending on the service, with capacities from 600 to 8000 lb of bulk materials for handling, shipping, or storage. Catalog 8 shows various systems for inplant and interplant use, as automated setup, and as storage units. This 32-page book is a guide to handling of dry and liquid bulk materials.

▲ For more details circle **NED-898 L** on enclosed inquiry slip ▲

Torque Wrenching Manual

P. A. Sturtevant Co.—Revised 32-page third edition of the "Torque Manual" provides application illustrations, bolt charts, instructions for torque wrench testing, pictures of special torque wrenches, and formulas for using adapters, attachments, and extensions. Proper care for torque wrenches is discussed, and suggestions for making on-the-spot adjustments and repairs are given.

▲ For more details circle **NED-899 L** on enclosed inquiry slip ▲

Oscillating Grinders & Surfacer

Sales Service Mfg. Co.—Controlled work pressure and a feed conveyor with 60 to 120-ipm variable speed range are features of Tri-Matic oscillating belt grinders, described in illustrated 8-page Bulletin TM-860. Machines are available in 12 to 48-in. sizes. Also covered is the Tri-Matic oscillating sheet surfacer which uses abrasive impregnated nylon. Specifications are included.

▲ For more details circle **NED-900 L** on enclosed inquiry slip ▲

Plastic Sheet, Rod, Tube & Film

Cadillac Plastic & Chemical Co.—Available sizes, weights, color ranges, textures, purchasing specifications, grades, and prices for an extensive line of plastic sheet, rod, tube, film, block, and flat tubing are listed in 64-page catalog. Acetate, acrylic, butyrate, Delrin, Implex, Kel-F, Mylar, nylon, phenolic, polyethylene, polystyrene, and others are listed, along with cements, pigments, and miscellaneous supplies.

▲ For more details circle **NED-901 L** on enclosed inquiry slip ▲

Solid & Clad Metals

Texas Instruments Inc., Metals & Controls Div.—Solid and clad gold and silver for industrial use, silver cadmium oxide contacts, and clad seamless tubing for heat transfer are among new products described in 16-page General Plate Products brochure. Solid and clad base metals, precious metal, thermostat metals, electrical contacts, and a line of industrial metals are also detailed.

▲ For more details circle **NED-902 L** on enclosed inquiry slip ▲

Positive Displacement Blowers

Sutorbilt Corp.—California series of horizontal and vertical blowers and gas pumps automatically provides a metered quantity of oil-free air at constant volume, even against variable pressure. They are subject of descriptive 12-page Bulletin S59-H which provides complete dimensional and performance data for low, medium, and high pressure units.

▲ For more details circle **NED-903 L** on enclosed inquiry slip ▲

Bus Duct

Westinghouse Electric Corp.—Designed to carry excitation currents, but also suited for battery charging and electroplating, the electric utility bus duct described in 12-page Booklet 30-664 is available with copper or aluminum bus bars and steel or aluminum duct housings. Drawings, dimensions, specifications, and engineering data are included.

▲ For more details circle **NED-904 L** on enclosed inquiry slip ▲

Threading Tools

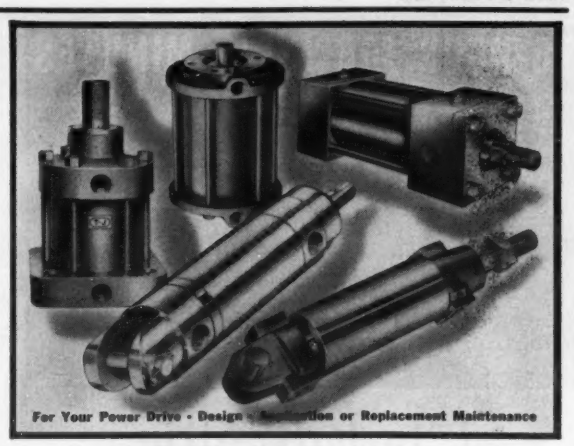
National Acme Co., Threading Tools Div.—Vers-O-Tool self-opening threading and hollow milling heads, collapsible and solid adjustable taps, and five-chaser heads for revolving and nonrevolving spindles are included in line of threading tools detailed in 44-page illustrated Bulletin DT-60. All are stocked in a range of sizes.

▲ For more details circle **NED-905 L** on enclosed inquiry slip ▲

Warehouse Stacker Crane

American MonoRail Co.—12-page bulletin SB-1 depicts typical applications of Stacker Cranes in the warehousing of steel bars, dies, rolls of materials, drums, and pallet loads. This fork lift type crane is combined with high-stacked open racks for space-saving storage and handling from floor level to over 30-ft heights.

▲ For more details circle **NED-906 L** on enclosed inquiry slip ▲



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CYLINDERS • MILLING CUTTERS • RIVETERS and CLINCHERS

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Chip Welds Faster...Easier with *NEW* Milwaukee

½" Electric Hammer

Chip welds *faster* and do a *better* job of removing weld spatter with MILWAUKEE's new ½" hammer. It's rugged . . . weighs only 6½ lbs., delivers 2800 blows per minute . . . hammer blow easily adjustable to suit the job. *Exclusive* spring-loaded clutch drive absorbs impact shock . . . protects against gear and motor damage . . . doubles gear life. Special "snap-in" lock in chuck prevents chisel from dropping out.

For easier, faster chipping . . . for better appearing, sounder welds — look into the many time-and-work-saving advantages of this new ½" electric hammer — another quality MILWAUKEE tool. Call your MILWAUKEE distributor or write us for free literature.

AO-130

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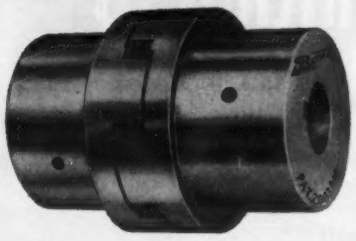

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BOND makes almost 100 different types and sizes of flexible insulated couplings. Write for catalog F-26.

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Complete Product Information on General Electric cartridge, tubular, finned tubular, oven, immersion, insertion, strip, vane-type, and space heaters; metal-melting pots and heaters; and control and accessories. The new catalog also contains:

Easy-To-Use Application Data for each product, including cross references for products, applications, controls, and accessories. Information and arrangement make it easy to select and order just the right product for any application.

WRITE TODAY

Section 757-01, General Electric Co., Schenectady 5, N.Y. Ask for GEC-1005, the new catalog of Calrod* Industrial Electric Heaters and Devices.

*Reg. Trade-mark of General Electric Co.

GENERAL ELECTRIC

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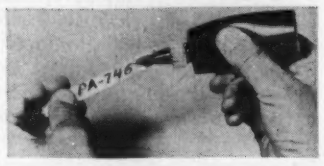
New Processes & Materials

TEFLON MARKING COMPOUND
supplied in plastic squeeze bottle



Dark carbon film created on Teflon surfaces by application of PA-746 Treating Agent makes a mark that is impervious to the temperatures normally encountered in Teflon service. Supplied in a polyethylene squeeze bottle with a long, tapered nozzle, its viscosity is such that no fluid will leak out unless pressure is applied. Bottle can thus be used as a "crayon." • **Plastic Associates,** 2900 S. Coast Blvd., Laguna Beach, Calif.

▲ For more details circle NED-912 L on enclosed inquiry slip ▲

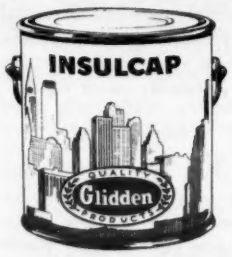
METAL COLOR COATINGS
surface treatment for all metals

Possessing corrosion resistant, weathering, and color fast properties, Hinac Process aqueous color coatings are usable on virtually all metals. A low-viscosity chemical surface treatment solution, applied at room temperature, it covers completely and drips free quickly after application by roller coating, dip, or spray. Only pretreatment required is cleaning and rinsing. Clear, satin finish Hinac-1 coating, applied to carbon, stainless, and zinc plated steel and aluminum, does not deter welding. Heavier Hinac-2, also clear and with a satin finish, protects ferrous and nonferrous metals against salt spray and outdoor weathering. Color Hinac is a hard, solvent resistant, ductile grade for use on many metals. Colors include red, brown, green, blue, black, gray, and bronze. • **Pennsalt Chemicals Corp.,** Metal Processing Dept., 3 Penn Center, Philadelphia 2, Pa.

▲ For more details circle NED-913 L on enclosed inquiry slip ▲

INSULATION SEALER
protects commonly used insulations

Low cost protection to commonly used insulating materials is provided by Insulcap insulation sealer which is applied with a wide brush, spray gun, roller, or mitten without thinning. Typical uses include covered duct work, steam pipes, hot water lines, furnaces, breechings, converters, and digesters. It even seals insulations that cannot be completely dried before painting. It resists water, vapor, mildew, acids, alkalies, and general corrosive conditions. Product dries to the touch in 20 min at 70° F, and can be recoated in 4 hr. It is available in white in 1, 5, and 55-gal containers and can be tinted. • **Glidden Co.,** 11001 Madison Ave., Cleveland 2, Ohio.



▲ For more details circle NED-914 L on enclosed inquiry slip ▲

THROTTLABLE PLASTIC GATE VALVE IN PENTON AND PVC

This valve combines the no-pressure-drop of a gate valve and the positive-throttle control of a globe valve. Designed with a free-to-swivel plug and seating on a different surface at each closure it gives longer wear. Suitable for vacuum service. Rated for 150 lbs. Available in PVC, Styrene-Copolymer and Penton with screwed, socket-weld or flanged ends. *Write for Catalog 42.0 today.*

Vanton
PUMP & EQUIPMENT CORP.
DIVISION OF COOPER ALLOY CORP.
HILLSIDE, NEW JERSEY

▲ For more details circle NED-915 L on enclosed inquiry slip ▲

TWO MEN
from your regular plant crew

CAN MOVE YOUR HEAVIEST MACHINE

QUICKLY
EASILY
ECONOMICALLY

WITH . . .

MULTITON
ROLLER SKIDS
and suitable tractive power

The days of wasteful extravagant roller-bar moving are gone. With a set of MULTITON roller skids you can move any load up to 300 tons more quickly, more easily and at lower cost than by any method previously devised. The MULTITON roller skid lays its own track as it moves easily over smooth or uneven surfaces. . . . It will *swivel, turn, steer* and position heavy loads accurately in tight quarters.

LET US SHOW YOU how to slash moving costs and plant disruption. MULTITON skids will pay for themselves in ONE MOVE, and save thousands in the course of a year. Write for free catalog and 12-page booklet on *Modern Methods of Heavy Equipment Handling and Hauling.* A demonstration in your plant can be arranged —at no cost, of course. P.S. Ask about the Multiton Junior Kit for moving loads up to 6000 lbs.

STOKVIS MULTITON CORP.
Dept. NED-11, 18 Secatoag Ave.
Port Washington, N. Y.

▲ For more details circle NED-916 L on enclosed inquiry slip ▲

UNIPUNCH®

TOOLING IS MORE THAN A PRODUCT LINE . . . IT IS A COST SAVING METHOD!

Illustrating the simple, easy mounting of UNIPUNCH Perforating Units on a template. No adjustments of setup are required for alignment of punches and dies.

• The UNIPUNCH METHOD uses a wide range of standard interchangeable units and parts to lower production costs. This method permits any number of units to be set up quickly outside the press, placed on press bed and produce finished parts with first stroke of press ram. Nothing is attached to press ram—down-time cut to minutes.

The same group of units may be set up in unlimited patterns keeping the tooling investment in continuous operation for greater savings. It's a great big economy story.

Write Today for FREE Methods Book

PUNCH PRODUCTS *Corporation*
378 BABCOCK STREET, BUFFALO 6, NEW YORK

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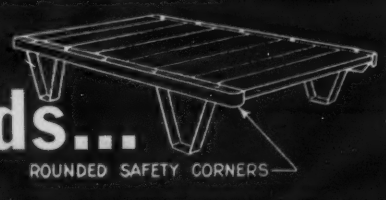
Ironbound



Skids...

ROUNDED SAFETY CORNERS

"Short-Haul" Skids

ONE JACK SERVES MANY SKIDS

BOUND TO BE BETTER Ironbound MATERIALS HANDLING EQUIPMENT

Write for Illustrated Catalog

IRONBOUND BOX & LUMBER COMPANY
55 HOFFMAN PLACE, HILLSIDE, N. J.

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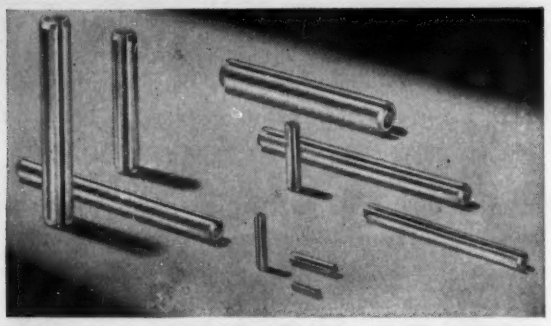


Versatile—and economical—fasteners...

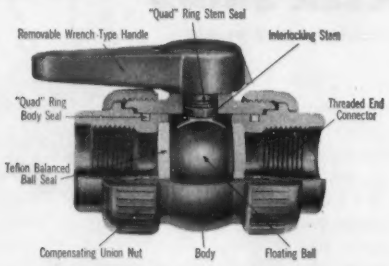
SEL-LOK spring pins

- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.
- Eliminate costly tapping, reaming, peening, milling
- Swift fastening—just drill and drive
- Can be reused repeatedly
- Secure locking—won't work loose despite shock or vibration

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through 1/2 x 5 in.) and beryllium copper (1/16 x 3/16 through 1/4 x 3 1/2 in.). See your authorized distributor for details or write us for Bulletin 2331 and samples.

INDUSTRIAL FASTENER Division sps
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-918 L on enclosed inquiry slip ▲



Fast-acting CHEMTROL ball valves CAN'T CORRODE!

Here's a complete line of plastic valves that *cuts replacement costs and downtime wherever acids, alkalies and many solvents are handled!* Made in 5 basic types of plastics; broad chemical resistance as well as good performance in high temperature ranges.

Compact Chemtrol ball valves feature 1/4 TURN TO SHUT-OFF, FULL FLOW CHARACTERISTICS, NO TURBULENCE, CONTINUOUS TAKEUP ON REPLACEABLE SEATS, UNION TYPE END CONNECTORS, QUICK DISASSEMBLY!

Chemtrol is the LEADER in plastic valve manufacture!

ASK FOR CATALOG—Many valve types, widest size range in the industry. Dealers in all leading industrial areas.

CHEMTROL
404 West Central Avenue, Santa Ana, California

▲ For more details circle NED-919 L on enclosed inquiry slip ▲

New Literature & Catalogs

Optical & Electronic Systems

Bausch & Lomb Inc.—"Emissivity Enhancement of Solar Cells for Temperature Control" is title of Technical Report No. 1, first of a series published by this company's Military Products Division to acquaint reader with its capabilities in optical and electronic systems. Sections are devoted to cell coating, emissivity, solar absorptivity, reflectance, and heat determination.

▲ For more details circle NED-920 L on enclosed inquiry slip ▲

Four-Speed Lathe

Rivett Lathe & Grinder, Inc.—Single lever of the 60 Series precision Speed Lathe starts the spindle, selects any speed up to 4800 rpm, changes speed during operation, and instantly stops or reverses the spindle. Described in illustrated 6-page bulletin, it has four speed ranges, a compound rest with hardened slides, a 9 1/4-in. swing, and 18-in. distance between centers.

▲ For more details circle NED-921 L on enclosed inquiry slip ▲

Live Roll, Belt & Gravity Conveyors

Conveyor Specialty Co.—Series of four illustrated bulletins describes end drive live roll conveyors for handling light packages and other small unit loads; Series E Unibilt belt conveyors which use components interchangeable with other types of conveyors; gravity wheel and roller conveyors; and center drive live roller conveyors. They have 1, 4, 4, and 1 pages, respectively.

▲ For more details circle NED-922 L on enclosed inquiry slip ▲

Photoelectric Lighting Controls

Precision Multiple Controls, Inc.—Specifications of a simplified tubeless photoelectric lighting control which utilizes a thermal time delay relay operated by a photo conductive cell are found in illustrated catalog. Details of its installation, mounting accessories, and adaptor are included, along with prices.

▲ For more details circle NED-923 L on enclosed inquiry slip ▲

Signaling Equipment

Edwards Co.—Illustrations, product descriptions, specifications, and ordering data on a line of signaling equipment are content of 60-page Catalog S-100. Supplementary catalogs on industrial and commercial building products, original equipment type products, and residential products fit in any ring binder.

▲ For more details circle NED-924 L on enclosed inquiry slip ▲

The Cost of Wasted Time

Kelly-Read & Co.—Circular slide rule chart shows in graphic form how expensive wasted time can be. For instance, 500 employees receiving $2 per hour can cost their company $42,500 per year if they waste just 5 min per day. By moving the face of the chart, the total can be calculated for various numbers of employees at various hourly wage rates.

▲ For more details circle NED-925 L on enclosed inquiry slip ▲

Worm Gear Drives

Foote Bros. Gear & Machine Corp.—32-page Engineering Catalog RCB on Radicon enclosed fan-cooled worm gear drives is divided into three sections: AGMA standards, in accordance with which all units are rated; application data, selection and ordering procedures, AGMA load classifications, rating tables, and overhung and thrust loads; and details and dimensions of the several model types available.

▲ For more details circle NED-926 L on enclosed inquiry slip ▲

Industrial Scale Models

Knight Models, Inc.—Planning of present and future plants and sites in respect to layout and construction, manufacturing methods, process and material flow, and industrial maintenance is function of the industrial scale models described in 8-page illustrated bulletin. Company can supply models of standard and special machines and equipment in any scale or degree of detail.

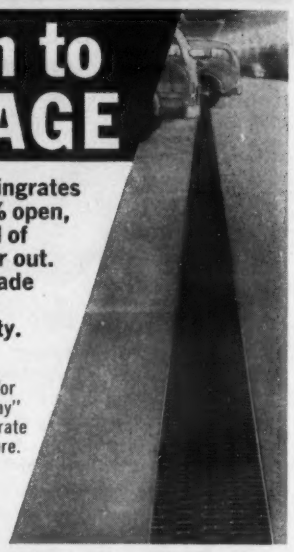
▲ For more details circle NED-927 L on enclosed inquiry slip ▲

Welding & Brazing Manual

All-State Welding Alloys Co.—Pocket-size 56-page instruction manual and catalog on welding, brazing, and soldering alloys and fluxes covers physical properties, major uses, and application instructions. Shortcuts, hints, chemical composition, and data on automatic and semiautomatic welding wire are given. Manual welding, brazing, soldering, cutting, and tinning instructions are included.

▲ For more details circle NED-928 L on enclosed inquiry slip ▲

Solution to DRAINAGE



IRVICO "Dryway" Draingrates are approximately 80% open, reducing the likelihood of flooding areas inside or out. In addition, they are made of steel bars on edge, affording high durability.

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"A FITTING GRATING FOR EVERY PURPOSE"

Manufacturers of Riveted, Pressure-Locked, Welded Gratings of Steel, Aluminum and other metals.

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IRVING SUBWAY GRATING CO., Inc.
Originators of the Grating Industry
Offices and Plants at
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What makes the first gear-type coupling still first choice?

Check design . . . and you'll find Fast's Couplings (the original gear-type couplings) are superbly engineered, ruggedly built, smoothly running units that are designed to outlast the machines they connect.

Check completeness of line . . . and you'll find Fast's Couplings in a complete range of sizes and types for shafts from 1/2" to 32" and larger.

Check service . . . and you'll find Fast's Couplings are backed by expert help from experienced field engineers . . . while outstanding stock facilities throughout the country insure speedy delivery of your coupling orders.

Check popularity . . . and you'll find Fast's Couplings are the choice of more equipment manufacturers than any other shaft coupling.

Check Fast's for your coupling needs today.

KOPPERS COMPANY, INC., 711 Scott Street, Baltimore 3, Md.

KOPPERS FAST'S COUPLINGS
Engineered Products Sold with Service

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HYDRAULIC

REMOTE CONTROL

SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

Sperry CONTROLS
HYDRAULIC REMOTE CONTROLS

Representatives in Principal Cities

SPERRY PRODUCTS CO. • 1711 SHELTER ROCK RD. • DANBURY, CONN.

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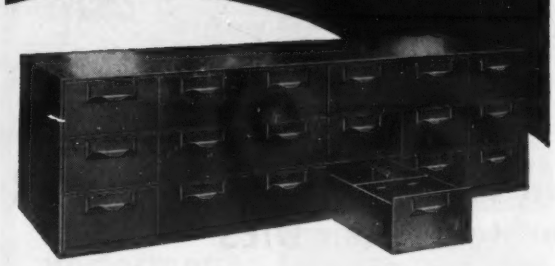
LYON DRAWER CASE UNITS



These heavy-duty steel drawer case units provide your most convenient way to store small parts. Built to take a lifetime of hard usage. Dividers instantly adjustable every inch—permit quick rearrangement. Available in 12, 18 and 24 drawer units. Lyon gray baked-on enamel finish.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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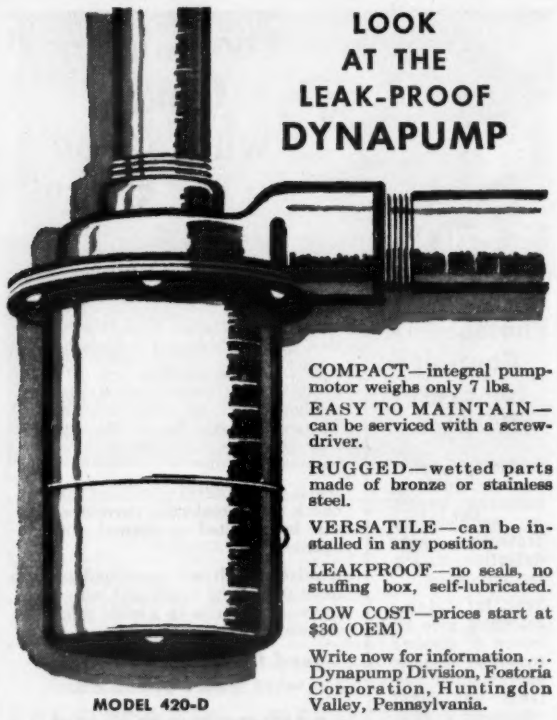

LOOK AT THE LEAK-PROOF DYNAPUMP

COMPACT—integral pump-motor weighs only 7 lbs.

EASY TO MAINTAIN—can be serviced with a screwdriver.

RUGGED—wetted parts made of bronze or stainless steel.

VERSATILE—can be installed in any position.

LEAKPROOF—no seals, no stuffing box, self-lubricated.

LOW COST—prices start at $30 (OEM)

Write now for information . . . Dynapump Division, Fostoria Corporation, Huntingdon Valley, Pennsylvania.

MODEL 420-D

DYNAPUMP®

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LYON WORK BENCHES

NEW MODULAR TYPE

Permits individual bench or multiple-bench arrangement to requirements. Steel top, cabinet and four drawers. Drawers are 15¾″ wide, 20″ deep, 6¾″ high. Available with pressed wood or hardwood top, if desired. 28″ deep, 34″ high and 60″ or 72″ long.

Write for free 92-page Lyon Steel Equipment Catalog.

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General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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New Processes & Materials

METAL TINNING SPRAY
coat appears when metal is heated

Tinning of metal surfaces prior to soldering is facilitated with Tin Swipe which consists of tinning metals, chemical cleaner, and flux in a spray can. Material is sprayed on the metal surface and heat is applied. At soldering temperature a smooth coating of tin appears on the metal. Tin Swipe can also be sprayed on hot metal, with coating appearing as it is sprayed. Wiping off dirt and grease is only preparation needed. On fittings, product is sprayed on end of tubing or pipe and the inside of the fitting. Heat is applied to the joint, and after the tinning cycle is completed, solder is applied. Bond and solder coverage are improved. • **Wright Mfg. Co.**, 1900 Euclid Ave., Cleveland 15, Ohio.

▲ For more details circle NED-935 L on enclosed inquiry slip ▲

SOLID FILM LUBRICANT
has varied metalworking uses

Metal spinning, die stamping and forming, tube bending, and wire drawing are among the uses for 22-T solid film lubricant, applied by dip or spray. It minimizes wear and damage to parts and dies and thus reduces rejects. Its low coefficient of friction makes possible small radius bends on tubing. Lubricant for stainless steel, aluminum, titanium, cold rolled steels, and other metals is washed off the finished part in 140° F water. • **Electrofilm, Inc.**, 7116 Laurel Canyon Blvd., North Hollywood, Calif.

▲ For more details circle NED-936 L on enclosed inquiry slip ▲

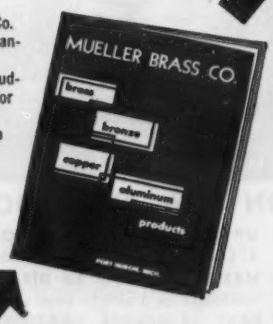
PORCELAIN PIPE
clad with steel for 400° F service

Steelclad porcelain pipe and fittings, which combine the chemical and heat resistance of porcelain with the mechanical protection of a steel shell are suitable for service up to 150 psi and 400° F. Armor consists of 10-16 gage steel tubing fitted to porcelain pipe and cemented at the extremities. A stainless steel expansion ring in straight pipe lengths overcomes differential expansion at high temperatures. Steel end flanges are rotatable. Connection to other porcelain piping requires an adapter flange. Porcelain withstands all acids except hot concentrated phosphoric and hydrofluoric. Pipe diameters from ½ to 8 in. are available. • **Lapp Insulator Co.**, Process Equipment Div., 120 Hall St., LeRoy, N. Y.

▲ For more details circle NED-937 L on enclosed inquiry slip ▲

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



314

Please send me Mueller Brass Co. Manual No. FM 3017.

Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

LYON STEEL SHELVING

Patented Clip and Stud design provides lowest cost and quickest assembly plus complete adjustability without the use of bolts, nuts or tools.

Write for free 92-page Lyon Steel Equipment Catalog.

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Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-938 L on enclosed inquiry slip ▲

CE800 ELECTRIC COUNTERS
- 200 million count life—lowest cost per 100 million counts.
- DC operating reliability from AC
- Only 5 watts input

count reliably longer

CE600 ELECTRIC COUNTERS
- 50 million count life
- Quiet operating—free from AC hum
- DC operating reliability from AC
- Knob-reset, key-reset, crank-reset and electrical reset models.

CM52 STROKE COUNTERS
- 200 million count life
- Oversize shaft and bearings
- **Shakeproof**—Only one screw in counter assembly.
- **Reliable**—no skip or over travel

BRIEF CATALOG
Illustrates, describes and prices complete line of Endurance Rated Counters for every purpose. Send for your copy today.

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8066 McCormick Boulevard, Skokie, Illinois
Representatives and Distributors in Principal Cities of the United States and Canada

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LYON SERVICE CARTS

2 SIZES
30″ long
16″ wide
32″ high
•
36″ long
24″ wide
32″ high

MADE OF LIFETIME STEEL

Save steps and time in material handling. Have 5″ diameter composition rubber wheels—2 stationary and 2 swivel. Formed steel tube push bar. 3″ deep, pan type trays. Lyon Gray baked-on enamel.

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LYON METAL PRODUCTS, INC.
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NEW FREE TIMESAVER

to help schedule Housekeeping Jobs

Get more efficient housekeeping from present manpower and equipment with this new work planning guide. It provides a methodical, orderly system for scheduling daily work of the maintenance crew.

Plus suggestions on building maintenance—ideas to speed the job and ease the load—tips on caring for mechanical equipment—tips on maintenance methods for various kinds of floors.

It's yours Free... write Today!

ADVANCE FLOOR MACHINE CO.

120 INDUSTRIAL CENTER • SPRING PARK, MINNESOTA

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Choose the *RIGHT* Speed Reducer for every job... *EVERY TIME*

Get this pocket-size engineering data book and complete catalog.

The handiest speed reducer guide available. Gives answers to ratios, horsepower, application, shock load, space, shaft position, etc.

Write, wire or phone today. No obligation.

ABART GEAR and MACHINE CO.

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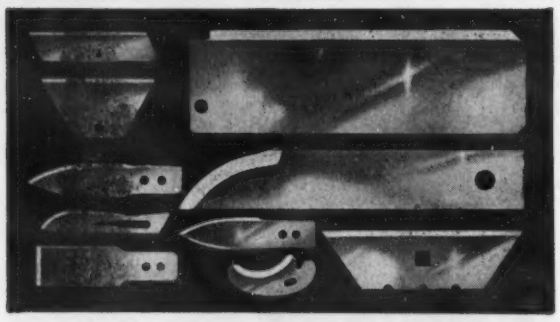

WHY RE-SHARPEN?

CRESCENT disposable knife blades are custom engineered to your specifications — made of Swedish surgical steels in any length required, width to 2¼ inches and thickness to 0.050-in.

CRESCENT disposable knife blades with razor-honed edges eliminate the cost of re-sharpening dull knives — give you higher production, more uniform product, greater efficiency, and longer cutting life.

CRESCENT engineers will solve your cutting problems, too. At no obligation, write and specify the type of knives you use, how many, what you cut, and how.

Write to: Engineering Department
CRESCENT MANUFACTURING CO.
Fremont, Ohio

▲ For more details circle NED-943 L on enclosed inquiry slip ▲

New Literature & Catalogs

Gear & Pinion Combinations

Gries Reproducer Corp.—Engineering drawings and tables in 10-page illustrated Catalog 3001-B describe integrally die cast zinc gear and pinion combinations in these forms: Gear and hub with hole, gear and pinion with hole or shaft, flanged pinion with hole or shaft, cup gear and hub with hole, and gears and pinions with special features.

▲ For more details circle NED-944 L on enclosed inquiry slip ▲

Electromagnetic Drives

Westinghouse Electric Corp.—MagnaFlow electromagnetic drives for conveyors, fans, pumps, winders, metal slitters, and forming machines are suited for use anywhere the need for speed control exists. Subject of 12-page illustrated booklet, they are available in both integral and fractional, and liquid cooled units. Details of each type are given.

▲ For more details circle NED-945 L on enclosed inquiry slip ▲

Vibration & Noise Control Products

Korfund Co.—Installation photos contained in 8-page Booklet K4G show a variety of vibration and noise control products and show how typical problems were solved. Among the 27 products covered are steel spring, rubber, and cork isolation mounts; flexible hose; accoustical materials; and instruments. Also included is an easy-to-read selector chart.

▲ For more details circle NED-946 L on enclosed inquiry slip ▲

Hydraulic Equipment

John S. Barnes Corp.—Illustrated 8-page Catalog EJS provides data on machines tool and industrial hydraulic equipment. Several types of pumps and valves, power units, test stands, and presses are briefly described in the machine tool section. Industrial section covers motorized gear pumps, power steering pumps, fluid motors, flow dividers, and power units.

▲ For more details circle NED-947 L on enclosed inquiry slip ▲

Harmonic Generator Production

General Aniline & Film Corp., Ansco Div.—Contract manufacturing service of this division has expanded into the specialized microwave field. Harmonic generators for the communications industry are being produced, and wave guide and other allied equipment production is contemplated. Facilities are described in booklet "Perfection Assured with Ansco."

▲ For more details circle NED-948 L on enclosed inquiry slip ▲

Storage Cabinets & Accessories

Vidmar, Inc.—Drawer heights from 1½ to 13¼ in. and width and depth of 25.2 in. are available in extensive line of modular storage cabinets. According to 20-page illustrated catalog the three standard cabinet heights can be combined with desks into a wide variety of forms. Adjustable dividers in drawers permit tailoring compartments to need. Catalog lists specifications of all units and accessories.

▲ For more details circle NED-949 L on enclosed inquiry slip ▲

More Profitable Bending

ON NEW PINES MODEL 3-T PRESSES

- **UP TO 1500 BENDS AN HOUR** on tubular parts up to 1" O.D. – up to 3 times faster than conventional methods.
- **HANDLES UP TO 10 DIFFERENT BEND ANGLES** automatically in a single tooling set-up with accuracy of ±½°.
- **FAST 15-MINUTE SET-UPS** with simple, quick-change tooling and pick-out type angle-of-bend stop pins.
- **WIDE-OPEN WORKING CLEARANCES** for rapid progressive bending in varied planes to different angles.
- Other models available for simultaneous multiple bending or with capacities up to 3½" diameter tube.

ASK FOR BENDING PRESS BULLETIN 379

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 637 WALNUT • AURORA, ILLINOIS

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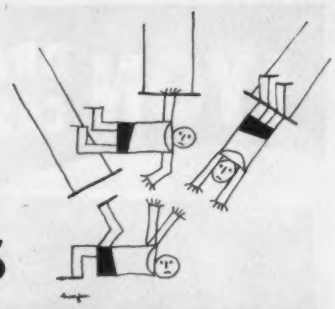

WINTRISS

MISSING PARTS DETECTOR

protects your DIES from costly "misses!"

Automatically detects: non-ejection • mis-feed • buckling • end-of-material • over-load

30-DAY TRIAL
- in your plant
- on your job
- no obligation
- no strings

Take advantage of this offer. See how the Missing Parts Detector stops dies automatically *BEFORE* damage can occur.

Write, wire, phone TODAY: descriptive literature on request.

Manufactured under U.S. and foreign patents by Wintriss Controls, Div. of

INDUSTRIONICS CONTROLS, Inc.
20-24 Vandam Street • New York 13 • CHelsea 2-0105

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Photoelectric Control with added "FAIL SAFE" protection

Photoelectric Controls for Every Purpose

Including tension jam-up, sorting, measuring, inspecting, weighing, die-protection, smoke detection, packaging, processing.

Send for catalog describing wide selection of standard equipment including photoelectric controls and light sources for all kinds of conditions.

Increases protection against accidents due to tube or circuit failure.

Automatically assumes open circuit position with current variation normally caused by loss of emission, filament burnout, lamp failure, shorting within a tube or a defective component.

Built-in ammeter provides instant check of photoelectric current which can be adjusted to normal without opening case.

Available with self-contained or remote phototube heads and with light sources adaptable to a wide range of service requirements.

Send for Catalog or tell us what you want to do.

AUTOTRON, INC.
Box 722D Danville, Ill.
Representatives in principal cities

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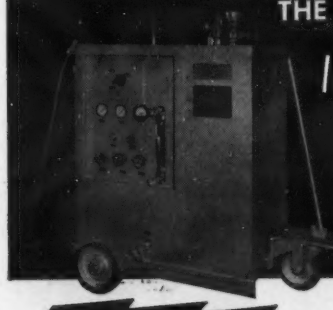
Here's 3-way steam cleaning for only 81¢ an hour (avg.)

THE NEW *IMPROVED* ELECTRIC HYDRO STEAM-JET CLEANER



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- No fumes • No noise
- No coils, tubes or heating elements to scale or burn out
- A.S.M.E. code and U.L. listed

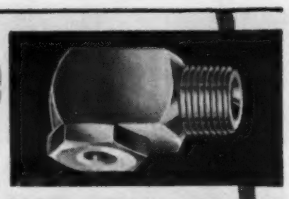
This heavy-duty unit does *all three:* steam cleans with water, steam and detergent... dry steams... and rinses with hot or cold water. Interchangeable operation—without interruption! Write for descriptive bulletin.

PANTEX builds a complete line of electric steam generators and electric and fuel-fired steam-jet cleaners. Technical bulletins available.

PANTEX MANUFACTURING CORPORATION
BOX 660Z, PAWTUCKET 11, R. I. 0-094

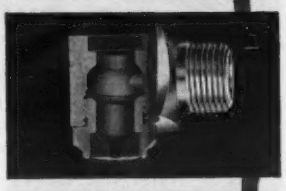
▲ For more details circle NED-953 L on enclosed inquiry slip ▲

Spray Nozzle types choice of over 12,000 basic designs



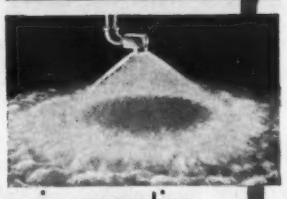
materials

brass, stainless steel, lead, hard rubber, hardened steel, tungsten carbide and many others.



performance

uniform distribution with spray angle, capacity, impact and atomization to your specifications.



to improve every spraying operation

Improve performance, lower spraying costs with Spraying Systems spray nozzles. Prompt delivery. For complete information write for Catalog 24.

SPRAYING SYSTEMS CO.
3211 RANDOLPH ST. • BELLWOOD, ILL.
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

▲ For more details circle NED-954 L on enclosed inquiry slip ▲

NOW! . . . *the industry's finest*

AUTOMATIC PARTS FEEDERS

at the industry's lowest prices!

If your operation involves the manufacture or processing of parts in volume quantities, it will pay you to investigate the cost saving advantages of Feedmatic-Detroit automated equipment.

COMPARE THESE LOW FEEDMATIC PRICES *on Standard Rotary Hoppers*

14" DIAMETER	$185.00*
16" DIAMETER	205.00*
18" DIAMETER	225.00*

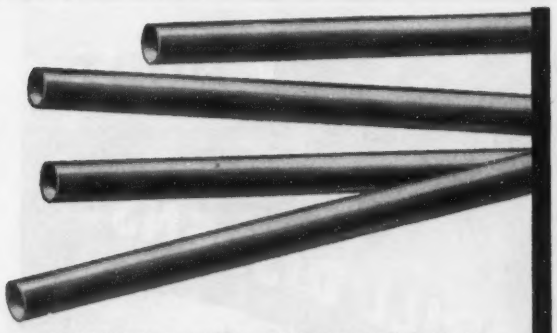
All prices include 115 volt totally enclosed electric motor. 220/440 volt motor $10.00 additional.

Automatic pick-up and placement units available for complete automation of assembly process . . . designed to meet your specific requirements.

**Tracks extra, subject to quotation.*

SEND SAMPLE PARTS FOR PROMPT QUOTATION

FEEDMATIC—DETROIT, INC.
P. O. BOX 42 • DETROIT 40, MICHIGAN
Rotary Hoppers • Floor Hoppers • Automatic Gaging Machines
Automatic Assembly Machines



LOOKING FOR INFORMATION ON ALUMINUM TUBE?

WRITE FOR

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. G, 17272 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality-Controlled Tubing

▲ For more details circle NED-955 L on enclosed inquiry slip ▲

New Processes & Materials

ADHESIVE BONDING FILMS join metals, plastics, vinyls

Quick clean attachment of metals, plastics, and vinyls to themselves and other surfaces is secured with heat or solvent using GP Pre/Set Plasmount Hab bonding film. Film resists normal hazards, including temperature extremes from −65 to 250° F and has bond strength of up to 1000 psi tensile. It is used for permanent attachment of perforated radio control panels, camera parts, plastics, and other items. • **Girder Process, Inc.**, 102 Hobart St., Hackensack, N. J.

▲ For more details circle NED-956 L on enclosed inquiry slip ▲

WIRE CLOTH coated with Teflon

Industrial wire cloth in meshes as fine as 180 per inch is available coated with Teflon which does not interfere with mesh openings. Typical use is in a filter where the coating has a tendency to hold water back and allow other liquids to pass through. Coating can be applied to various wire cloth materials, including stainless steel. • **Cambridge Wire Cloth Co.**, Cambridge, Md.

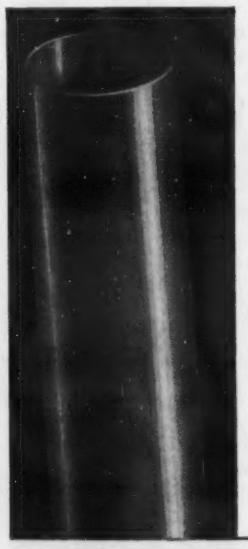
▲ For more details circle NED-957 L on enclosed inquiry slip ▲

STAINLESS-CLAD PANELS for building and industrial use

Supplied in easily handled 4 x 10-ft sections, Mirawal panels consist of thin 0.016 and 0.018 gage Type 302 Allegheny Ludlum stainless steel bonded on one or

both sides of a wide choice of veneer or insulating type cores. Thickness can range from 11/16 to 3 in., depending on the core material and design requirements. Core materials can be mineral, vegetable, inorganic, or plastic. The bond is heat and moisture resistant, and it is plastic to move with thermal expansion and contraction. The surface is made to specification and includes satin, architectural, or special finishes. Panels are usable for interior or exterior applications in buildings and structures as well as for product or equipment applications. • **Birdsboro Corp.**, Mirawal Div., Birdsboro, Pa.

▲ For more details circle NED-958 L on enclosed inquiry slip ▲



NEED COMMERCIAL COPPER TUBE?

WRITE

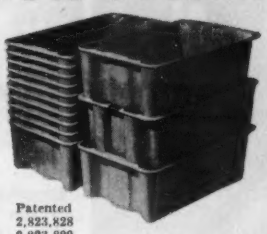
WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. G, 17272 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality-Controlled Tubing 9028

▲ For more details circle NED-959 L on enclosed inquiry slip ▲

LEWIS TOTE PANS

are STRONG

One-piece fiberglass molded construction; can't rust, rot, dent or bend. Stack-n-Nest® pans handle up to 3000 lbs. safe static load. Available in 8 sizes, three attractive molded-in colors.



Patented 2,823,828 2,823,829

LIGHTWEIGHT

Lighter than an aluminum pan of the same size, these general purpose Lewis fiberglass pans handle bigger payloads with less effort.

. . . *versatile*

This Stack-n-Nest® truck is only one of the many different Lewis containers, each designed for a variety of handling operations. There are trays, pans, boxes, and trucks to fit all your handling requirements.

SEND FOR THE BIG LEWIS CONTAINER CATALOG TODAY
SHIPMENT WITHIN 24 HOURS FROM RECEIPT OF ORDER.

G. B. Lewis COMPANY
411 MONTGOMERY STREET • WATERTOWN, WIS.

▲ For more details circle NED-960 L on enclosed inquiry slip ▲

CHICAGO TRAMRAIL

JIB CRANES

Faster Handling

AT LESS COST

360° SWING

SELF-SUPPORTING

CAPACITIES FROM 1½ TO 5 TONS

A complete line of Jib Cranes including Wall Bracket Type with 180° rotation, Self-Standing Column Type with 220° rotation; also heavy duty and light duty Self-Supporting Type with 360° rotation. Mast type with top and bottom supports. Top bearing is bronze and a tapered precision bearing is at bottom.

CHICAGO TRAMRAIL CORPORATION
1310 S. Kostner Avenue • Chicago 23, Illinois

▲ For more details circle NED-961 L on enclosed inquiry slip ▲

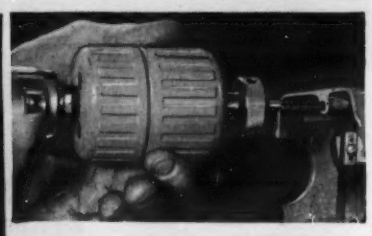
Place your order for BRASS Tube

With

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. G, 17272 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality-Controlled Tubing 9025

▲ For more details circle NED-962 L on enclosed inquiry slip ▲

New tool makes tapping as simple as drilling a hole!



Tapping used to be considered one of the toughest shop jobs. It was done with expensive tools by mechanics of great skill.

Now—with a *Push-Pull Tapper* it can be done by anyone—expertly—safely. All you need is the Push-Pull Tapper, a portable electric drill and the taps you would ordinarily use. The big advantage of the Push-Pull is CONTROL. Start it, stop it, reverse it without turning off the power. Use it anywhere, for any hole up to 5/16" diameter. Cost—just $29.95.

To see the Push-Pull Tapper demonstrated, circle number on postcard. Supreme's distributor will bring one over.

Supreme Push-Pull® Tapper
PRECISION ASG PRODUCTS
2222 S. CALUMET AVE. CHICAGO 16, ILLINOIS

▲ For more details circle NED-963 L on enclosed inquiry slip ▲

Handiest TOOL IN THE PLANT!

CLEMENTS
Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS
...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS
Blows dust, grit, chips and filings from hard-to-reach places. Use it as a *suction* cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | CLEMENTS MFG. CO.
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

▲ For more details circle NED-964 L on enclosed inquiry slip ▲

Wiped film evaporator handles tough jobs

If you evaporate products that are *heat sensitive, highly viscous,* or *low in thermal conductivity,* take a look at the Pfaudler Wiped Film Evaporator.

Key to its efficiency is the *mechanically wiped* evaporating surface that works like this: Centrifugal force of an internal rotor (pictured above) holds four free-floating wipers in contact with the heated wall. These wipers spread your product over the entire surface in a *thin, uniform film.* Slots in each wiper prevent product "curl" and accelerate it down and off the wall—very important with viscous and heat-sensitive materials.

Wiping also assures complete wetting of wall—no channelling—no hot spots—optimum efficiency for full utilization of heat-transfer area.

TEST YOUR PRODUCT IN OUR LAB. Then, choose the proper size production unit.

MORE DETAILS by writing to our Pfaudler Division, Dept. NED-110, Rochester 3, N. Y.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

▲ For more details circle NED-965 L on enclosed inquiry slip ▲

New Literature & Catalogs

Speed Reducers

Link-Belt Co.—Redesigned and expanded line of parallel shaft speed reducers now includes 57 sizes, including 23 new sizes. Single, double, and triple reduction units in capacities up to 2800 hp at high or low output speeds are covered in 36-page Book 2719. Ratios are up to 292:1. Sixteen pages of tables contain thermal and mechanical horsepower ratings.

▲ For more details circle NED-966 L on enclosed inquiry slip ▲

Circular Roller Chain

Acme Chain Corp.—Designed to operate on curves, the circular roller chain detailed in 4-page illustrated Bulletin 8 acts as a transfer medium from one straight line conveyor to another. Engineering details and several applications are shown, and specifications are included.

▲ For more details circle NED-967 L on enclosed inquiry slip ▲

Relay Adjusting Tools

P. K. Neuses, Inc.—How to adjust and maintain relays is subject of 8-page illustrated booklet, intended for use by the maintenance man in correcting relay difficulties. Use of the TK-18 kit of relay tools is covered.

▲ For more details circle NED-968 L on enclosed inquiry slip ▲

Computer Characteristics Chart

Charles W. Adams Associates, Inc.—Unusual, fold-out type "Computer Characteristics Chart" is one of the most up-to-date and comprehensive listings available. The salient features of 43 U. S.-built, general purpose, stored-program electronic digital computers are listed. Their general characteristics, internal speed, magnetic tape, peripheral output and input equipment, and special features are detailed.

▲ For more details circle NED-969 L on enclosed inquiry slip ▲

Properties of Commercial Glasses

Corning Glass Works—Revised 16-page Booklet B-83, entitled "Properties of Selected Commercial Glasses," covers 32 types, including several new glasses. Sections deal with thermal expansion and optical properties, thermal stress, heat transmission, electrical properties, corrosion resistance, and viscosity data. Temperature conversion chart is a highlight.

▲ For more details circle NED-970 L on enclosed inquiry slip ▲

Diamond-Impregnated Products

Fish-Schurman Corp.—Drills, wheels, blades, dressers, hones, and laps are among the large variety of metal-bonded diamond-impregnated products listed and priced in 36-page FS Steelset Catalog DG 395. The Steelset process produces a tool in which diamond particles are firmly bonded in a sintered steel matrix so that they are not pulled out during their useful life.

▲ For more details circle NED-971 L on enclosed inquiry slip ▲

Measurement of Sound, Vibration, Strain

B & K Instruments, Inc.—Complete line of integrated instruments for automatic measurement of sound, vibration, and strain is listed in 24-page Short Catalog ES-9. Typical of instruments listed are oscillators, voltmeters, amplifiers, frequency analyzers, level recorders, vibration controls, and strain gage equipment.

▲ For more details circle NED-972 L on enclosed inquiry slip ▲

Fuel Conditioner

Industrial Chemical Co.—"Intelligent Information for the Economy Minded" is title of 26-page booklet which discusses Induco fuel conditioners for gasoline, diesel, and bunker fuels. It points up advantages derived from using these conditioners and reports on user successes.

▲ For more details circle NED-973 L on enclosed inquiry slip ▲

Fluid Power Equipment

New York Air Brake Co., Hydreco Div.—Hydreco gear pumps, control valves, and motors, as well as their application to mobile equipment and production machinery are subjects of 8-page General Bulletin 10-001. Construction and design features of the various components are illustrated.

▲ For more details circle NED-974 L on enclosed inquiry slip ▲

Plastic Vacuum Hose

Dayton Dayflex Plastics Co.—Construction details and present applications for line of flexible plastic vacuum hose are revised in 8-page Form PR6-860. Hoses range from 1/4-in. size for lab and medical equipment to large diameter vent or exhaust hose.

▲ For more details circle NED-975 L on enclosed inquiry slip ▲

DeVilbiss Heavy-Duty Oil Guns

HM OIL SPRAY GUN
Air-Operated
- Cup capacity—1 quart
- Nozzle length—14 inches
- Air connection—¼-inch N. P. T. (F)
- Air consumption—3½ cfm at 50 psi

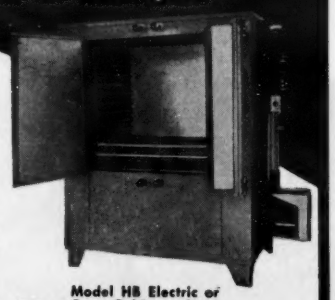
HW & HWA OIL GUNS
Trigger-Operated
- Cup capacity—1 quart
- Nozzle length—6 inches
- Discharges solid stream (HW), or concentrated spray (HWA)

Use DeVilbiss oil guns for convenient, economical lubrication or other fluid applications with powerful stream, concentrated spray, or fine mist. HW and HWA have trigger-operated pump; HM is compressed-air-operated—can also be used for dusting or drying. Write for details.

DEVILBISS
THE DEVILBISS COMPANY
Toledo 1, Ohio
BRANCH OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-976 L on enclosed inquiry slip ▲

Precise engineering and construction result in
UNIFORM HEAT
throughout the work space



- High velocity recirculating blowers
- Greater heat input
- Adjustable louvres for balanced airflow
- Superior heat seals

All combine to provide *excellent temperature uniformity* in these rugged cabinet ovens.

Model HB Electric or Gas Cabinet Oven

30 Standard Models
- Work space from 4.6 to 72.3 cubic feet
- Temperature ranges from 100 to 1250° F.
- Electronic combustion devices insure safety for gas fired models
- Indicating control instrument
- Factory tested

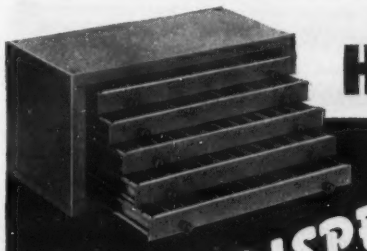
Other ovens from $121.50 up, including a complete line of laboratory, bench, cabinet, walk-in, and custom-built units.

Write for literature to help you select the right oven for your application

Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1353 N. ELSTON AVE., CHICAGO 22, ILL.

▲ For more details circle NED-977 L on enclosed inquiry slip ▲



HUOT
DRILL DISPENSER

Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. All compartments hold more than one dozen drills . . . up to several dozen drills of smaller sizes. Built-in pricing or inventory system eliminates the needs for cost sheets, and will keep a record of drills on hand. *Specifications*: 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel.

THREE MODELS
No. 1 for Fractional Drills $18.00
No. 2 for Numbered Drills $21.00
No. 3 for Lettered Drills $18.00

By the makers of HUOT DRILL INDEX

HUOT MANUFACTURING CO.
571 N. Wheeler St., St. Paul W4, Minn.

▲ For more details circle NED-978 L on enclosed inquiry slip ▲

are you a *D.W.?

*D.W.— Date Watcher

If time is an important factor in that rush job, then WLS, through skill and know-how in the specialized technique of SPEEDTOOLING, can usually produce your order in time and within as close tolerances as ordinary methods of stamping.
Further — they can save you up to 87% of former costs!

COMPLETE FACILITIES
- Blanking
- Forming
- Piercing
- Drawing
- Extruding
- Stenciling
- Countersinking
- Plating
- Machining
- Painting
- Grinding
- Welding

FREE
For those manufacturers who are faced with manufacturing problems, we offer a free bulletin illustrating many stampings we have produced, as well as a sample and cost summary of an actual part. We also offer free quotations from your blueprints at any time.

WLS Will Lead to Savings! STAMPING COMPANY
Charter Member of Small Lot Stamping Institute
3287 E. 80th Street • Cleveland 4, Ohio

For more details circle NED-979 L on enclosed inquiry slip

Low Cost MOTO-TRUC Stacker

A RIDER TYPE TRUC FOR NARROW AISLES

Stack loads ceiling high from 6' aisles ... get the speed, safety and convenience of a rider type truck . . . save on initial cost . . . get dependable operation with low maintenance cost . . . this rugged MOTO-TRUC stacker gives you all these important advantages.

WRITE FOR FULL DETAILS TODAY!

The MOTO-TRUC Company
1961 EAST 59th ST. • CLEVELAND 3, OHIO

For more details circle NED-980 L on enclosed inquiry slip

New Processes & Materials

FLOOR RESURFACER
withstands wet heat to 212° F

Dimensionally stable and chemical and abrasion resistant, Zelonide thermosetting industrial floor resurfacer bonds firmly to concrete, metal, and wood. It withstands wet heat up to 212° F and resists most acids, alkalies, oils, greases, detergents, moisture, and thermal shock. The hard, dense, impermeable surface is ready for traffic within 24 hr after application of a thin layer. • Monroe Co., 10703 Quebec Ave., Cleveland 6, Ohio.

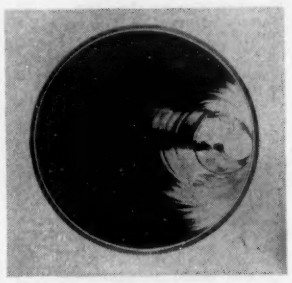
For more details circle NED-982 L on enclosed inquiry slip

RUST INHIBITIVE PAINTS
epoxy film drives out moisture, air

Rust-forming acids are neutralized by Rust-Go rust inhibitive paints which continue to combat rust as long as the coating remains on the metal. Strength and adhesion qualities of epoxy resins are combined with Cationic Action—wetting power that enables the vehicle to penetrate crevices and fissures in the rust formation until it reaches bare metal. Microscopic pits are coated with a tough, flexible epoxy film that drives out air and moisture. Rust-Go primer is applied over sound rusted metal with a minimum of surface preparation. High gloss finish coatings are available in red, green, gray, aluminum, and black. • Garland Co., 3748 E. 91st St., Cleveland 5, Ohio.

For more details circle NED-983 L on enclosed inquiry slip

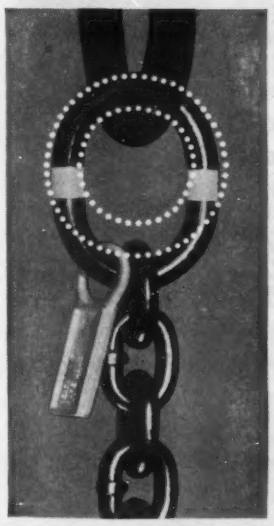
BIMETALLIC PIPE
many alloy linings possible



Monel, nickel, stainless steel, alloys of copper and nickel, as well as reactive metal linings can be used in manufacturing relatively low cost Gray bimetallic pipe. A seamless lining is hydraulically expanded into the base pipe, usually carbon steel. Additional pressure expands the base pipe as well, and lining is kept firmly against base pipe by differential contraction. Pipe is suited for all applications where corrosion is a factor, or where product contamination or catalyst poisoning are problems. It can be butt welded, flanged, and bent without damage to lining or the bond between lining and base. • Gray Tool Co., Box 2291, Houston 1, Tex.

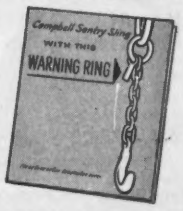
For more details circle NED-984 L on enclosed inquiry slip

CAMPBELL SENTRY SLINGS*
... the Sling Chain that "talks"



The WARNING RING tells you immediately when the sling has been overloaded ... it elongates visibly ... before the chain itself is damaged! Your eye *can see* the difference! Greater safety, greater economy!
*Patent Applied For

Write today for Brochure #1022.

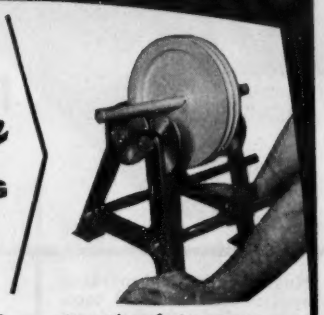


CAMPBELL CHAIN Company
FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

For more details circle NED-985 L on enclosed inquiry slip

Balance Rotating Parts FASTER...EASIER

USE Anderson BALANCING WAYS



Static-balance rotating parts easier, faster, more accurately with *supersensitive* Anderson Balancing Ways. No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special precision bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy work. Superior accuracy lasts throughout long life. Proved and preferred over 40 years.

Write for Bulletin No. 11-40
ANDERSON BROS. MFG. CO.
Rockford, Ill.

For more details circle NED-986 L on enclosed inquiry slip

MORE WORK PER DAY... with these NEW Stanley AIR TOOLS

NEW STANLEY AIR "UNISHEAR" Metal Cutting Shear
NEW STANLEY AIR MOTORS
NEW STANLEY AIR ROUTERS

Air-Powered for More Production in your Plant

Diversification within industry today demands that the right equipment be available for every job. Stanley has been meeting these demands for many years with quality electric tools and high cycle equipment.

Now Stanley introduces a new line of air-powered motors, routers and "Unishear" metal cutting shears for both standard and specialized high-speed production work. Just check a few of the outstanding advantages of these new Stanley Air Tools.

OUTSTANDING FEATURES
- **Low Maintenance** because of fewer and more durable parts.
- **100% Duty Cycle** under continuous, heavy-duty operation because there is no overheating, no loss of efficiency, no sudden breakdown.
- **Indifference to Overloading, Stalling,** because air-powered motors *cannot* burn out or be damaged by sudden shocks or stops.
- **Less Weight, Less Bulk Per Horsepower** means easier handling, less fatigue, greater accessibility to confined work areas.
- **Controlled Speed—Optimum Efficiency** because air pressure can be regulated to control speed.

• • •

Write for complete details. New literature and specifications will be sent to you by return mail. Add a new dimension to the production capabilities of your plant —air power! Address Dept. 5811.

STANLEY AIR TOOLS
manufactured by
STANLEY ELECTRIC TOOLS
Div. of The Stanley Works
New Britain, Connecticut

STANLEY ®

For more details circle NED-981 L on enclosed inquiry slip

CATAWISSA gives you the solution to these piping headaches

Catawissa PERFECT SEAL Unions

★ FULL ALLOY STEEL
★ FULL STAINLESS STEEL

Many special piping problems have been solved quickly, economically by Catawissa's Full Alloy or Full Stainless Steel Unions — and there's every reason to feel that yours could be, too!

Both types are available in "standard" and "double extra heavy" series — with Catawissa's exclusive 3-to-1 Safety Factor and Perfect Seal Seat Design!

THE MOST COMPLETE LINE OF UNIONS ON THE MARKET . . . AVAILABLE AT LEADING INDUSTRIAL SUPPLY FIRMS

— write for free catalog —

CVF CATAWISSA VALVE & FITTINGS CO.
CATAWISSA, PENNSYLVANIA 1505

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WHERE THE MARKING IS TOUGH

you'll find PITTSBURGH BEVEL steel stamps

Rugged industrial marking applications demand tools that withstand abuse and long, severe usage. That's why so many industries have standardized on Pittsburgh Bevel Stamps. Extra supporting bevels, deep engraving and hefty shanks are just a few reasons for the extraordinary service. Make Matthews' Pittsburgh Bevel your standard, too.

Available in complete letter and figure sets engraved with 1/32" to 1" size characters. Furnished in sturdy bench boxes with grid for easy stamp selection.

Write today for complete information and literature.

JAS. H. MATTHEWS & CO.
3948 FORBES ST. PITTSBURGH 13, PA.
OFFICES IN PRINCIPAL CITIES WRITE, CALL OR TWX PG 424

▲ For more details circle NED-988 L on enclosed inquiry slip ▲

NEW PURGE ROTAMETERS have stainless steel parts

Fig. 1853 has anodized aluminum body, stainless steel parts. The Fig. 1855 is all stainless.

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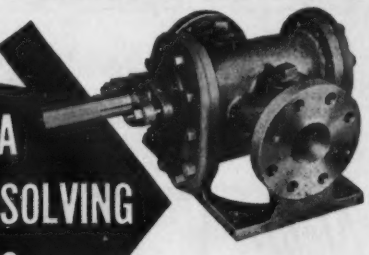

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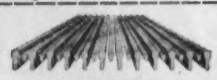

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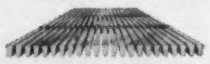

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New Literature & Catalogs

Alnico Permanent Magnets

Terry Sales Corp.—Hundreds of Alnico permanent magnets are descriptively covered in 14-page Catalog 10, a handy reference guide to aid selection. Data cover cast and sintered square, round, flat, chain, ring, horseshoe, and rectangular U-styles as to magnetic and mechanical properties and tolerances. A price section is provided.

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Chemistry & Physics Handbook

The 42nd edition of the "Handbook of Chemistry and Physics" is a complete and up-to-date reference source for mathematics, chemistry, and physics facts and data. This work compiles the contributions of over 200 recognized authorities and consists of 3400 pages of data classified under five indexes. New tables include: Diffusion of Metals into Metals, Interplanetary Orbits, Standard Types of Stainless Steel, and others. Price is $12 per copy. Published by the Chemical Rubber Co., 2310 Superior Ave., Cleveland 14, Ohio.

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Markers & Identification Signs

Anodyne, Inc., North Shore Nameplate Div.—Complete tabulated listing of Speedy Marx pipe markers, electrical markers, accident prevention signs, numerals, letters, and identification signs printed on waterproof vinyl cloth is provided by 24-page catalog. All safety and caution signs are pictured and instructions are given for ordering. The self-adhesive markers are furnished on Quick-Release dispensing cards.

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Magnesium Co. of America—Series of 1 and 2-page bulletins covers a wide variety of materials handling products and specialties. These include pallet dollies and industrial and hand trucks, Magcoa dockboards and ramps, cable reel dollies, magnesium barrel skids, grain shovels, van ramps, and magnesium ladders made from extrusions.

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Design Guide on Voltage Regulators

Raytheon Co., Power Supply & Regulator Operations—More than 2000 voltage regulators are described in Catalog 4-265 which includes a selection guide and design data on these units for direct current power supply application. Ratings range from 10 to 10,000 va.

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Baird Machine Co., Press Div.—Description of five standard transfer presses in 12-page brochure covers use of these machines for high production of stamped and drawn parts. Presses turn out finished components from roll stock by transferring parts from station to station through the machine.

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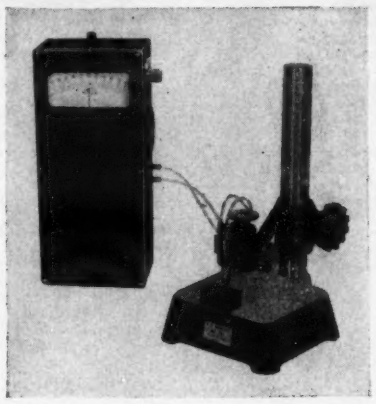

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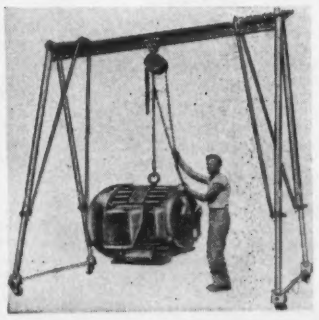

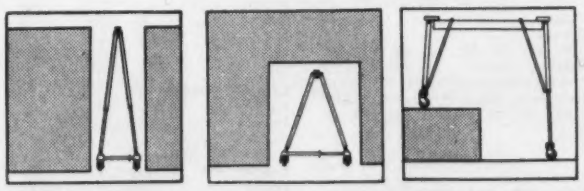

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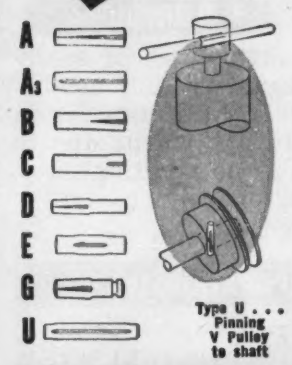

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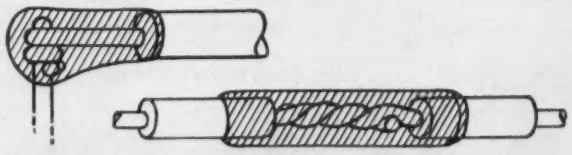

tions, and covering of spliced joints. Product has indefinite shelf life, and its viscosity can vary from a thin brushing consistency to a stiff paste. Usable temperature range is −30 to 80° C. Material can also be used to encapsulate resistors, capacitors, and switches. For adherence to metal, wood, or glass surfaces, Vyna-Kote Precoat primer is used. Insulation, precoat, and thinner are offered in ½-pt to 1-gal sizes. Kit contains clear and 10 colors of insulation and thinner in 2-oz brush-top bottles. • **Spectra-Strip Wire & Cable Corp.**, Box 415, Garden Grove, Calif.

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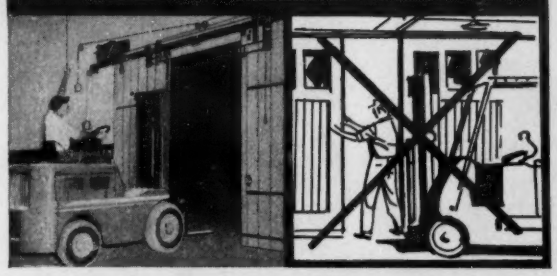

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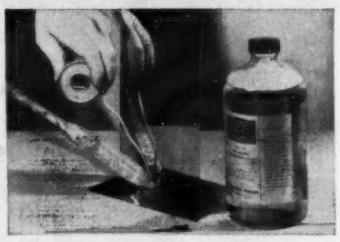

New flux that makes possible low temperature soldering of Rocket Age metals.

SCS #7 does away with bottlenecks of specialized fluxes for the new metals plus giving low temperature soldering on *all* Stainless Steels.

SCS #7 works 50° F. below the melting point of 50-50 solder. There are no skips when soldering Straight Chromium Stainless Steel; there is no bucking of the sheet.

SCS #7 removes the limitations of soldering dissimilar metals. It joins copper to stainless, molyb wire to silver, any of the new metals except Aluminum*. The flux is water soluble and may be removed readily, preventing corrosion.

SCS #7 combined with Farco All Metal Solder increases tensile strength five-fold, resists corrosion, and acts as a buffer between dissimilar metals.

SCS #7 is not only a production flux but a Laboratory necessity. It cuts cost by faster application at a lower temperature and saves solder by adding fluidity and spread.

SCS #7 is $5.95 per gallon; special offer six 4 oz. bottles $4.50; Farco All Metal Solder, ⅛" wire, $2.00 per lb.; prices f.o.b. Philadelphia, Pa.

*Asmc Flux for Aluminum Soldering.

FARRELLOY COMPANY
1246 N. 26th St., Philadelphia 21, Pa.

Have you tried #1 Acid Brushes 25% more Hair, $3.60 per gross F.O.B.

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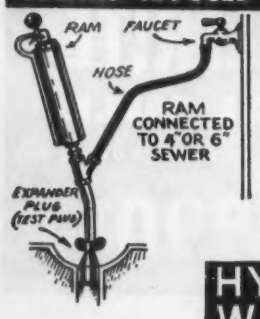

The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
138-5 Hurd Avenue Bridgeport 4, Connecticut

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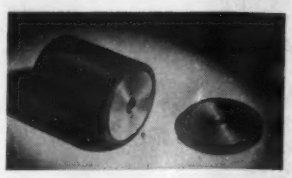
New Processes & Materials

CERAMIC MAGNETS
stack for use in traveling wave tube



Oriented ceramic magnetic material F-610 is designed for making stacks for periodically focused traveling wave tubes. Material has a high residual induction, thus a magnet stack exhibits high axial field strength. Magnets can be fabricated and finished to meet exacting requirements. They have a high degree of machinability, plus high mechanical strength. Intrinsic coercive force is 3050 oersteds; residual induction, 3025 gausses. Electrical resistivity is 6×10^{10} ohm/cm at 25° C. D. M. Steward Mfg. Co., Box 510, Chattanooga 1, Tenn.

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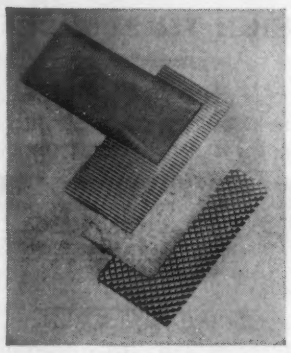
METALLIZED MYLAR LAMINATES
with self-adhering backing



Metallized Mylar laminates, available in a variety of patterns and colors, have self-adhering backing for application in package display, toys, novelties, models, luggage, wall panels, tiling, interior trim, and appliance components. Laminates can be die-cut to shape, or obtained in cut-to-size sheets or in rolls up to 54 in. wide. Free working samples are available. • **Lamart Corp.**, 16 Richmond St., Clifton, N. J.

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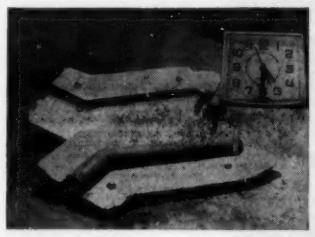
MOLD FACING COMPOUND
allows mold operation at up to 385° F



Low cost, short run, plastic-faced molds or tooling can be produced in 2 hr or less using Rezolin No. 111 surface coat compound. Typical applications include vacuum forming molds, laminating molds, and Keller models. Procedure for fabricating plastic-faced plasters involves applying Rezolin 111 to reverse plaster pattern which has been treated with 832A Partingkote, sprinkling on a thin layer of aluminum or hemp fibers and immediately applying a back-up of suitable casting plaster to the desired thickness. End tool will withstand up to 385° F. • **Rezolin, Inc.**, 1651 18th St., Santa Monica, Calif.

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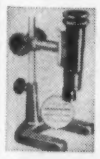
Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee
Minimum order on open account $5.00



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DIRECT READING—ERECT IMAGE

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War surplus—Alnico V-type! Horseshoe shape. Tremendous lifting power. 15¾ lb. size. Approximately 5,000-6,000 Gauss rating. Will lift over 250 lbs. Dimensions: A—5-3/16"; B—3¾"; C—5½"; D—2½"; E—2⅛"; F—4⅜".
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EDMUND SCIENTIFIC CO., Barrington, N. J.

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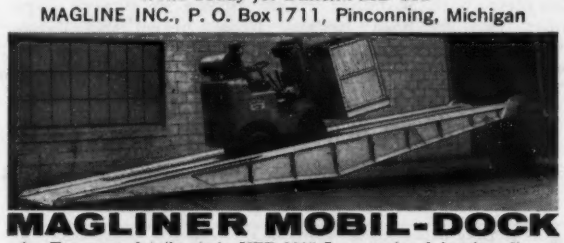

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